PUNJAB WHEAT:

ITS VARIETIES, DISTRIBUTION, AND HUSBANDRY.

(Being a Collection of Statistics and Correspondence printed by the orders of the Punjab Government.)

1884.

Copies available at the Office of the Commissioner of Agriculture, Punjab.

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No. 245.

Dated LAHORE, *the 7th May* 1884.

FROM

LIEUT-COLONEL, E G. WACE,
COMMISSIONER OF SETTLEMENTS & AGRICUTURE,
PUNJAB,

To.

R. G THOMSON, ESQUIRE,
SENIOR SECRETARY TO FINANCIAL COMMISSIONER,
PUNJAB.

SIR,

I have the honor to express my regret for the delay which has occurred in replying to the letters of the Punjab Government noted in the margin,* on the subject of Wheat cultivation in the Province.

Apology for the delay in submitting the Wheat Report.

June to December was spent in making inquiries. At the end of December Mr. Buck assisted me to obtain a proper classification of the samples in the Calcutta market, and I had hoped to have submitted this report in February, but a local press disappointed me and delayed the papers two months.

*No 106 dated 20th Apl '83.
„ 110 „ 26th „ „
„ 256 „ 24th Augt. „
„ 266 „ 6th Sept. „
„ 352 „ 30th Octr „
„ 34 „ 30th Jany. '84.

2. To proceed with the subject. Annexed is a volume of papers, part of which will, I trust, be of value to persons engaged in the Wheat trade. The letters from District Officers, at pages 4 to 67, give local details of some interest; but the more valuable part of the volume are the tables which follow. These tables are in two main divisions. First comes a descriptive list of the several kinds of wheat grown in each district; and then follow tables in which the same information is given separately for each class of wheat. A simple map showing the position of each district is also added. That is to say, a district officer or a merchant who wishes to know what wheats are produced in a given district will find complete information for that district in the first list. On the other hand, if a merchant wishes to know in what districts a particular class of wheat is grown, he can find this by referring to the subsequent tables. The tables are not so well arranged as they ought to have been; but they have been prepared under many hindrances and interruptions. And if I have suc-

Papers which accompany the Report, with some account of each.

ceeded in placing at the command of the trade and of Government officers fairly accurate information of the area of each variety of wheat and of the locality where it is produced, I hope the defects of arrangement will be overlooked.

Copies of the report and samples of wheat sent to Kurrachee, Bombay and Calcutta.

3. I am sending copies of the report, with samples to the Chambers of Commerce at Kurrachee, Bombay and Calcutta ; and another set of samples is open to inspection in my office.

Result of the trade classification.

4. The result of the trade classification is—

Table No.	Trade Name.	*Acres of wheat grown on—*				Average price per maund of 82 lbs. in January, 1884.	
		Irrigated land.	Land flooded by rivers.	Land entirely dependent on rain.	Total.		
						Rs.	As.
1	Club No, 1	85,139	92,172	61,260	238,571	2	14
2	„ No. 2	597,613	230,108	114,739	942,490	2	11
3	„ No. 3	31,887	5,037	30,678	67.602	2	9
4	Number 3	146,073	41,100	55,770	242,943	2	9
5	Soft Red	1,462,755	593,216	2,334,997	4,390,968	2	4
6	Hard Red	150,619	25,917	9,087	185,623	2	5
7	Not classed	284,796	189,437	570,504	1,044,737	2	2
	Total ...	2,758,912	1,176,987	3,177,035	7,112,934		

The classification was made through the agency of Messrs. Reinhold & Co., Calcutta, and I have not corrected it in any respect. The sale value and general nature of demand is given for each variety in the last two columns of each table.

Distribution of the several varieties in each district.

5. In the following table I show the distribution of the several varieties in each district. (The entries are given in thousands of acres.)

District.	White Wheats.				Red Wheats.		Not Classed.
	Club No. 1.	Club No. 2.	Club No. 3.	No. 3 (?)	Soft Red.	Hard Red.	
Delhi...	75	...	...	...	64	...	...
Gurgaon	...	...	...	...	66	...	...
Karnal	...	37	...	...	47	11	...
Hissar	...	...	...	...	45	...	...
Rohtak	2	...	...	...	21	...	31
Sirsa	...	3	2	...	23	1	...
Umballa	52	2	...	...	297	...	...
Ludhiána	...	4	5	...	156	8	...
Jullundur	...	7	...	...	311	...	...
Hoshiárpur	1	31	...	...	350	1	...
Kangra	...	51	...	77	1	1	51
Amritsar	...	6	20	...	191	20	83
Gurdaspur	...	52	...	...	291	21	...
Sialkote	...	21	36	...	223	7	3
Lahore	...	160	...	75	158	...	...
Gujranwalla	...	...	...	...	176	50	24
Ferozepore	19	26	4	...	300	3	49
Rawalpindi	3	...	..	...	407	...	...
Jhelum	...	...	...	...	...	...	374
Gujrat	...	...	...	...	225	62	43
Shahpur	...	1	...	...	68	...	94
Multan	...	176	...	...	3	...	39
Jhang	...	4	...	71	82	...	9
Montgomery	...	99	...	...	95	...	20
Muzaffargarh	2	63	...	...	79	...	50
Dera Ismail Khán ...	76	49	...	12	142	...	18
Dera Ghazi Khán ...	...	140	...	...	...	...	88
Bannu	...	...	...	...	273	...	...
Peshawar	3	1	...	...	176	...	...
Hazara	4	7	...	...	31	...	66
Kohat	...	3	...	8	86	...	...
Total Province ...	237	943	67	243	4,387	185	1,042

This table at first sight suggests the conclusion that the white wheats of Delhi, Umballa, Ferozepore and Dera Ismail Khan are the best in the province. But probably the samples were very unevenly chosen ; more care and discrimination being exercised in some districts and less in others. There was no security that the samples should be of fair average quality.

A similar remark applies to the last column of the table, *viz.*, the wheats not classed on the ground that there is no export demand or that they are unknown to trade. The list includes some excellent varieties, as, for instance, No. 52, 100, and 160. But there are not wanting indications of wheats finding their way to this head owing to bad sampling. The worst instance of this kind is the entry (No. 141) for the Jhelam district ; at which 374,123

cres are returned as usually mixed with barley. This is the entire wheat crop of the Jhelam district; and from a personal knowledge of that district, I am able to say that no general mixing of wheat and barley occurs. The agriculture is the same as that of the adjacent district, Rawalpindi, and the red wheat of Jhelam is as good as that of Rawalpindi (No. 138).

Compare page 40 of the descriptive list.

Some of the samples sent from the lower part of the Kangra district are strikingly poor; and this is the more noteworthy as the wheat grown in the adjacent district of Hoshiarpur is very fine. I would draw attention to the circumstance that, whereas the trade classification describes the quality of the flour, the native names commonly refer to the outside appearance of the grain. For instance, the hard red wheat of Amritsar (No. 70), is locally known as white wadanak.

6. I proceed to notice the suggestion for the improvement of the wheat cultivation of the province made in the correspondence under reply. The chief suggestions are as follows, *viz.*, that Government officers should exert their influence,—

Suggestions for improvement of wheat cultivation of the Punjab.

(*a*)—to secure an increased production of the better varieties;

(*b*)– to promote better methods of cultivation;

(*c*)—to introduce better methods of harvesting and storing the grain;

(*d*) —to discourage mixing and adulteration of the stock sent to market;

(*e*)—to promote the cleaning of it up-country before despatch to the coast.

7. *The cultivation of the better varieties of wheat.*—The statements given in paras. 4 and 5 show that the chief varieties of the Province are club or soft white and soft red. Of seven million acres total wheat cultivation, five millions (allowing for errors of classification) are soft red; and most of the rest is white. I think the Government would be doing a thing of very questionable expediency if it were to use its influence to alter this general result. The white wheats are the delicate varieties, which need careful tillage, liberal manuring and abundant moisture (whether supplied by rain, river, flood or irrigation). The soft red wheats are the hardier varieties; and they are also the varieties which are most valued by the people for food. The increased cultivation of the white varieties will depend a good deal on the export demand; given a steady demand, the cultivation of it will, no doubt, increase; and the increase will be largely in proportion to increased facilities of irrigation. But where the rainfall is scanty, as well as on that portion of his holding which cannot be manured, the cultivator is quite right in his preference for the hardier soft red.

Cultivation of better varieties and promotion of better methods of cultivation.

The promotion of better methods of cultivation.—I include under this division of the subject the selection of good seed. Many are the accusations launched against the cultivator on this head, and he is very generally said to be careless on the subject. Stated roundly in this way, I believe such assertions to be untrue. We ride into a village which we have never seen before, and proceed to interrogate agriculturists who are strangers

to us and who by long experience antecedent to our rule have learnt the art of giving polite and suitable answers to their rulers ; and we get the answers which a little reflection on our position as Revenue officers might show us that we should be likely to get. The inquirer will only get a very little further if he walks through the fields at sowing time and examines the seed that is being sown ; but how many of us can say that we have made a habit of doing this? The truth seems to me to lie outside the opinions commonly expressed. In most Indian districts there can be found agriculture of the best kind and of the worst ; there are also great differences between the several districts. There is no organised effort for the improvement of established varieties, and only a limited knowledge of the methods by which such improvement can be secured. But, so far as I know, there is no general or acknowledged indifference to the selection of good seed. We have not many opportunities of testing a matter of this kind ; but I have frequently made inquiries on the point, and I have usually found the cultivator as careful as his circumstances permitted.

The standard of merit in agriculture will always rise and fall with the general prosperity of the agricultural population. In so far as a considerable number of the agriculturists fall behind the best standard of their districts, it is hard to see how any official organization can mend this. Hereditary and social influences give way very slowly, and when they do give way the change is due rather to the urgency of personal wants and to the near prospect of personal profit than to the results of exhortation.

I do not think broadsheets and printed pamphlets can tell the people much that they do not already know, and these pamphlets never get down to the real cultivator, who is not a reading man. All that can be put into a simple pamphlet is known and practised by the cultivator to the best of his ability. And the only way in which I believe Government can act usefully is by establishing an efficient agricultural institute, whence the best varieties of wheat and other produce can be disseminated, and where the best agricultural practice can be exemplified. We have failed in such attempts hitherto because all our efforts have been on too small a scale. But an efficient central agricultural institute, working firstly on its own land, and secondly by organising agricultural fairs in different parts of the province, would become the centre of much inquiry and eventually disseminate much valuable information. The people are not indolent, they are ready to attend to anything really practical ; and there is abundant evidence of this afforded by the results of our horse and cattle shows.

Mixed varieties of wheat are rarely sown by the cultivator in the same field.

8. So far as my observations go, the cultivator rarely sows in the same field mixed varieties of wheat. The general level of intelligence among the cultivators is such as to make improbable any general resort to a practice of this nature. The practice of sowing a mixed crop of barley and wheat does prevail, but only to a limited extent, and for definite reasons, as for instance where the cultivator is not sure of his harvest. Mixed crops of wheat and gram are largely sown in the dry country south of Ludhiana, where the rainfall is scanty, and in the same crop lines of rape are sown. The practice is suited to the requirements of the locality, and it would be mere ignorance to condemn it as bad husbandry. Nor is there any difficulty in separating a

mixed heap of wheat and gram. The rape is reaped separately before the other crops. In short the cultivator in the Punjab does not ordinarily mix his wheat crop ; and when he does mix it, he has good reasons for doing so.

Remarks in regard to the better harvesting of the grain.

9. As regards the better harvesting of the grain, that is to say the introduction of better methods of threshing and winnowing, nothing has yet been suggested which the cultivator can safely adopt. I do not think their rude threshing-floors and the practice of treading out of the grain by bullocks deserve all the condemnation that is cast at them. The threshing-floors are usually as hard as stone and very well kept, and where stone is available (as in the Kangra and Simla hills) the threshing-floors are very neatly made of stone, and have storage sheds attached. No doubt better arrangements can be suggested, but the practical value of all such suggestions and the merit of all practices existing or proposed depends on their suitability to the cultivator's circumstances. As soon as a threshing or winnowing machine is put forward which is suitable to their circumstances it will be readily adopted. I wish every success to the efforts made in this direction by machinists ; but as yet the Punjab Government has no agency at its command which can assist such efforts.

Regarding its storage and marketing.

10. There remains the question of storage and marketing, covering the entire transactions in the grain from the time it leaves the field to the time it is shipped at an export harbour. As regards the whole of the subject, I do not think any success is to be expected from Government interference. When a cultivator stores grain for his own use, it is usually stored carefully and cleanly. His storage arrangements are on a humble scale : but they are cleanly, and much skill is displayed in preventing injury to the grain. But when the grain is sent to the market or sold to a retail dealer or middleman, a totally different set of influences come into operation. The merchants who have promoted the present enquiry do not need to be told what these are. That the retail dealer or middleman mixes different kinds of wheat ignorantly, or out of indifference, I do not believe. It is quite contrary to my personal observation of what usually takes place. These men are keen and needy to the last degree, and they are beyond influence by exhortation. They will only do what they think it pays them to do. And consequently the remedying of such malpractices as exist depends almost entirely on the action of the export merchants. If a middleman ships on to the railway at Lahore 1,000 tons weight of bags of wheat, and finds that on arrival at Karrachee the wheat is cleaned and examined, that he then gets payment for only 950 tons, and that much of it is classed low for mixing, it is possible that he will take the lesson to heart. In due time he may ; but no other argument will have the smallest effect upon him.

The suggestion to place in each tahsil samples of the wheat most in demand.

11. As regards the suggestion that samples of wheats most in demand be placed in each tahsil, I would say in the first place that this is a matter on which the fullest information already reaches the agriculturists very rapidly ; in the next place that it would be a difficult matter to distribute a large number of samples in a condition in which they would keep ; and thirdly, that even when distributed the agriculturists will not go to our Tahsil offices to look at them.

They can get much more reliable information in their own villages and bazárs.° The Government has no agricultural department of a nature suitable to such duties ; it has a few hard-worked revenue officers, of whom the most useful is the Deputy Commissioner in each district. But very few of them, indeed almost no Deputy Commissioner, can undertake to circulate samples of the wheat which should be cultivated. The traders know, and so do the cultivators, and it is best that they should be dependent on their own inquiries in this matter. If either the export merchants or the middlemen were supine the case would be different, but they are not, and information spreads apace.

Summary of results of Colonel Wace's inquiries and recommendations.

12. I sum up, in conclusion, the results of my inquiries and my recommendations. The accompanying papers place at the command of land revenue officers and merchants full details concerning the nature and distribution of the present wheat crop.

The present cultivation of the crop is of fair merit. Its improvement depends mainly on the increase of canal irrigation. Suitable improvements in harvesting, storing, and marketing have not yet been suggested ; and they apparently depend mainly on the action of the merchants themselves. The greatest recent agricultural improvement in northern India has been the introduction of the Beheeà cane mill. This was invented by gentlemen interested in the cultivation of sugar, and it has been distributed by their efforts. The improvement of the wheat crop depends in the same way much rather on the action of the persons interested in its export than on anything which revenue officials can do. Personally I feel great reluctance in advising agriculturists on these matters. Even if I am sure that my advice is right and sound, it does not at all follow that the agriculturist will be wise to adopt it. It is much safer to leave him to his own judgment ; he knows what will sell in the market and what is best suited to his land and circumstances. And we are very bad judges in these points. It is one thing to register results, and in a general way land revenue officials can do this. But they cannot safely undertake to advise agriculturists as to what they had best do ; nor will the agriculturists listen to such advice.

Printed copies of enclosures available, and their distribution.

13. Four hundred copies of the printed papers accompanying this report are available. I solicit permission to distribute them in the usual way, which will include copies to the principal Chambers of Commerce and to gentlemen interested in the trade. This letter and the orders passed on it might be added to the collection before it is distributed.

I have, &c.,

E. G. WACE, Lieut.-Colonel,

Commissioner of Settlements and Agriculture,

Punjab.

CULTIVATION OF AND TRADE IN WHEAT IN THE PUNJAB.

No. 233, dated 13th August 1883.

From—R. G. THOMSON, Esquire, Officiating Under-Secretary to Government, Punjab, Revenue Department.

To—The Junior Secretary to Financial Commissioner, Punjab.

In continuation of this office letter No. 110, dated 26th April last, on the subject of the cultivation of, and the trade in wheat in the Punjab, I am desired to forward a copy of the papers noted in the margin, and, with special reference to paragraph 4 of the letter from the Calcutta Chamber of Commerce, to request that the Financial Commissioner will be so good as to ask the Commissioner of Settlements and Agriculture to pay speedy attention to the letter from this office above quoted.

Letter dated 24th July 1883, from the Secretary, Bengal Chamber of Commerce, Calcutta, and enclosure.

2. I am also to suggest the importance of urging upon wheat-growers the advantage of growing wheat without admixtures of other grain.

Calcutta, 24th July 1883.

From—H. W. I. WOOD, Esquire, Secretary Beugal Chamber of Commerce,

To—The Secretary to Government, Punjab.

I AM directed by the Committee of the Chamber of Commerce to submit for the consideration of His Honor the Lieutenant-Governor the enclosed Resolution of the Government of Bombay on a representation by the Bombay Chamber, relative to the expediency of steps being taken to urge upon growers of wheat the importance in their own interests of preventing admixture with the wheat of other grain or foreign substances and impurities which tends to lower prices being obtained than might otherwise be secured.

In placing this matter before you the Committee direct me to express their hope that similar orders may be issued to Commissioners or other authorities of districts where wheat is cultivated for exportation.

It has also been suggested that the cultivation of wheat would be improved and the mixture of inferior grains prevented, if Government were to offer throngh local officers in the wheat-growing districts small prizes for the best farmed fields in which no other grains were growu, and the Committee of the Chamber venture to recommend this suggestion to His Honor's notice.

IMPROVEMENT OF TEH QUALITY OF INDIAN WHEAT.

No. 4734.

REVENUE DEPARTMENT :

Bombay Castle, 23rd June 1883.

Letter from the Secretary, Chamber of Commerce, dated 7th June 1883.

"In the memorandum regarding the cultivation of wheat, &c., in the Bombay Presidency, including Sindh, forwarded to the Chamber with your letter No. 7181, dated 14th October 1882, and in other papers issued by

Government on the same subject, reference is made to the well-known fact that the relatively low price of Indian wheat in the London market is not so much due to its quality, which is generally very good, but to its admixture with dirt and other inferior grains, and that this admixture of inferior grains with the wheat is due to the fact that cultivators often grow other grains in the same field as wheat, as a resource in the event of the failure of the wheat crop.

"As the trade in Indian wheat is rising to great importance, and as it is most desirable that this practice should be discontinued, and the position of Indian wheat improved in the markets of Europe, the Committee of the Chamber of Commerce desire me to request that His Excellency the Governor in Council may be pleased, in the interest of the country, to order the local officers of Government in all districts where wheat is grown, to take whatever steps may be possible to prevent this admixture being resorted to."

Resolution.—Copies of the letter from the Chamber of Commerce should be forwarded to the Commissioner in Sindh, and the Commissioners of Divisions who should be requested to communicate the remarks of the Chamber of Commerce to the Collectors of wheat-producing districts in their respective Divisions, and desire the Collectors to urge on wheat-growers the importance in their own interests of preventing admixture with the wheat of dirt, other grain, or other foreign substance, which leads to their obtaining for the wheat produced by them a lower price than they might otherwise secure.

2. Copies should also be forwarded to the Survey and Settlement Commissioner, and the Political Officers in charge, Native States, where wheat is grown. A copy should be sent to Mr. E. C. Ozanne on his return to duty.

J. MONTEATH,
Acting Under-Secretary to Government.

No. 804, dated Lahore, 21st June 1883.

From—Major E. G. WACE, Commissioner of Settlements and Agriculture, Punjab,
To—All Deputy Commissioners, Punjab.

I am directed by Government and by the Financial Commissioner to address you on the subject of paras. 21 and 22 of the Public Works Department Resolution No. 6436, dated 28th November last, which you will find in the *Punjab Gazette* of the 11th January 1883.

2. The Honorable the Lieutenant-Governor wishes—

(i) that the chief firms of merchants exporting grain and the most intelligent agriculturists should be consulted as to how cleaner, finer, and less mixed grain can be secured for the export trade ;

(ii) that samples of the different classes of wheat recognised by the English trade should be made available for inspection in each Tahsil and at each principal mart, and the Financial Commissioner further suggests that such samples should be placed in every Patwárkhána ;

(iii) that a broadsheet urging the cultivation of better wheat, and its better preparation and preservation for the market, be distributed to all Zaildárs and Patwáris in the principal wheat-producing districts.

3. In order to give effect to Government's wishes, I have the honor to request that you will send me one ser samples of each of the kinds of wheat cultivated in your district, with a statement in the form annexed. The samples should be put up in bags. The object of collecting these samples is to ascertain the present distribution of the different kinds of wheat. On receipt of the samples, an attempt will be made to classify them according to the nomenclature of the English market ; and it will then be possible to distinguish by the names locally current the varieties preferred in the European market, and to place samples of such in the principal marts. It is particularly requested that the samples be good of their kind, and there should be sewn on to each sample-bag a ticket giving—

Name of district.

No. of sample in list.

Local name of the sample.

4. In the next place, I request the favor of your consulting the chief grain merchants and some intelligent agriculturists on the subject referred to in para. 2 (i) of this letter, and in paras 21 and 22 of the Government's Resolution. In preparing the broadsheet suggested by Government, it would be desirable to propose such remedies as are capable of successful adoption. For instance, the finer kinds of wheat can only be cultivated on land advantaged by irrigation or by an abundant rain-fall. And it should be ascertained whether it is the cultivator that garners the grain in a dirty state, or whether the dirt is added when the grain is sent to market ; and if so, whether by the cultivator or the trader. Clearly, the remedies which it is proper to suggest depend primarily on the answer to these questions. If, however, inquiry shows that the cultivator is indifferent to the proper cleaning of the grain, it will still be for consideration whether in the existing conditions of his husbandry, and of his relations with the grain-dealers, we must look for the required cleaning of the grain to him or to the grain-dealer. It is also worth inquiring whether in cases in which a cultivator does not market his grain but stores it, he is alive to the necessity of storing it in clean condition. There is no question as to the interest of the exporter, nor as to the interest of the large grain-dealer who sells to the exporter. They must clean the grain ; if they do not, a great deal of avoidable loss is suffered by them. But self-interest, trade, and profit are keen dividers of labour ; and having regard to the circumstances of the cultivator and the facilities at his command, is he so interested in making over his grain to the grain merchant in a clean state as to make it worth his while to attend to the matter ?

5. In respect of the habit of sowing wheat mixed with other crops, you are requested to state generally to what extent this prevails, and the motive for which it is practised. Is it resorted to on good and safe lands, or is it confined to the unirrigated lands and relied on as a protection against the total failure of the produce, or for what reason ? In addition, please report especially whether it is common to sow mixed different varieties of wheat, or whether the mixing of such varieties occurs in the grain stores.

6. I would also ask the favor of your reporting whether any, and if so what, arrangements have recently been introduced by the grain-dealers with the object of cleaning the grain before its despatch for export, and whether

any agencies for the despatch of grain in large quantities to export towns or direct to Europe have recently been established in the principal marts of your district. From what I have heard independently, I believe that a great deal is being done in these directions in the larger marts of the province.

7. A brief account of the principal grain marts, of the transactions of each for the past three years, and of the principal traders and agencies, will be very acceptable and add to the value of your reply, as also if you will state the varieties of wheat hitherto most preferred for export by the local traders.

8. In districts under Settlement, a copy of this Circular is being sent to the Settlement Officer also, in order that he may assist the Deputy Commissioner in furnishing the information called for.

Descriptive List of Samples of wheat grown in the _____ District.

1	2	3				4	5	6	7	8	9	10
Serial No. of samples.	Local name or names.	Rough Estimate of area annually sown by each kind.				Ear, bearded or beardless.	Whether usually mixed with other crops and if so with what crops.	Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (ser per rupee).	Whether preferred for daily food or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.
		Irrigated.	Sailáb.	Baráni.	Total.							

N. B,—It is not expected that more than a rough estimate be given in column 3. But the total of the whole Statement should agree with the crop returns of the district.

DELHI DISTRICT.

Extract of a letter No. 1076, dated 20th September 1883.

From—George Smyth, Esquire, Deputy Commissioner of Delhi,

To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * *

3. It may be said that the Delhi city is the only grain mart of this District. Some grain is certainly exported from the several tahsils, but the bulk of the produce pours into Delhi, where it is bought up for export. Inquiries have been made of the chief firms of merchants exporting grain, and some of the more intelligent agriculturists, as to how cleaner, finer, and less mixed grain can be secured for the export trade. The export of wheat to Europe is quite a new phase in the Delhi trade, and the people generally are in entire ignorance of the kind of wheat which would meet a ready and a profitable sale in Europe. Of late years, however, two or three European firms have been established here, who deal almost wholly in produce, and some of the Native merchants are beginning to see the new opening for themselves.

4. Up to the present no attempt has been made to sow the finer kinds of wheat with the sole object of exporting it to Europe, for the reason, as already assigned, that the people are generally not aware of the advantages of such exportation. When, however, they come to understand that it is more profitable to sow finer grain and obtain for it a ready sale, both in this country and in Europe, than to cultivate the coarser and inferior kinds, those of the agriculturists who can afford to do so, may, no doubt, sow the kinds which will find most favor in Europe; and it is also probable that grain merchants will themselves come forward with grants of money to encourage agriculturists to cultivate those kinds on the understanding that they shall be entitled to purchase the produce.

5. At the same time, there is every reason to think that greater care will be taken to keep the wheat as clean and as free from dirt or admixture of any other inferior sort of grain, as possible. And if a broadsheet urging the cultivation of better wheat and its better preparation for the market, be distributed to all Zaildars and Patwáris, and samples of the varieties of wheat most preferred in the European market be kept at the Patwárkhanas, it may be useful in inducing the agriculturists to take to the cultivation of the finer kinds of wheat.

6. Of course the finer kinds of wheat can only be cultivated on lands advantaged by irrigation, and a large portion of the irrigated area of this District is still available for this purpose. Wheat is generally sown on baraní lands together with barley, gram and pulse ; and at intervals of every four or five feet in the fields " arb " or " sarson " or " taramíra " is sown. It is explained that this practice is resorted to as a kind of a safeguard against the total failure of the entire crop in the event of scanty rainfall. It is also stated that this plan is followed to a certain extent on irrigated land as well, the object apparently being to secure a double crop. I would remark, however, that when a mixed crop of the kind is cut, the grain is not at once mixed. This is an after process, and is resorted to as much by the cultivator as the grain dealer.

7. There is a kind of mixture sold in the Delhi market which goes by the name of " gojar." This is simply the red and white wheat, which is sown in a mixed state and reaped and sold as " gojar." There is no after mixing. When wheat is mixed with barley, gram or pulse, it goes by the name of " gojra"; but in this case the mixing is all done after the several crops have been reaped, and not before the sowing.

8. The cultivator does not mix dirt with his grain to augment the quantity of his store, nor, for that matter, does the trader. The dirt that finds its way into the grain is contributed largely by the cultivator in the first instance during the threshing, garnering and winnowing processes. The trader then adds his quota by storing the grain in unswept and filthy godowns and exposing it for sale on the ground before his store-rooms, without taking the precaution to spread a cloth of some sort on the ground to receive the grain, or of sweeping the place with any degree of care.

9. To improve this state of affairs, the only remedy for us is to try and instil into the cultivator and the trader the manifold advantages that would accrue to them by a little attention to the very simple duty of more cleanliness in the matter of storing their grain and keeping it as free from dirt as possible while it is passing through the processes of threshing and winnowing.

And the broadsheet which you propose to issue may be most useful in achieving this object, but, as it is not noted in your circular, I would suggest the desirability of having the broadsheet translated into the several languages spoken in the Province. Urdu and Hindi copies would be required for this District.

10. So far as can be ascertained, none of the Delhi wheat is exported direct to Europe, though almost the whole of the quantity sent to Bombay eventually finds its way to the continent. As already stated, the Delhi city is the principal grain mart of this District, and the chief exporting firms are :—

1.—Mr. William Wilson.
2.—Messrs. Reinhold Brothers.
3.—Messrs. Ralli Brothers.
4.—Mohan Ram—Kanhai Ram.
5.—Bishan Dial—Hardiyal.
6.—Badri Das—Bhagwan Das.
7.—Tara Chand—Gaushan Das.
8.—Dungar—Hardeo.
9.—Chunni Lal—Kanhia Lal.
10.—Kalu Ram—Pirbbu Diyal.
11.—Udham Chand—Ram Partab.
12.—Mahtab Rae—Saudagar Mal.

I append a statement showing the quantities of wheat exported by each of the above firms during the past three years, and note that the soft white wheat, known as "daúd khani," is the kind most preferred for export, and which is most in demand.

11. All these firms, and especially the European traders, clean the wheat well before exporting it, though the cleaning is not conducted with any particular method. The filth and spurious grains are carefully removed, and if this reduce the weight of the original consignment by 5 maunds or more in every 100 maunds, the exporter takes credit for the difference, but if the difference does not come up to this, he is obliged to take the whole consignment at the original valuation.

Statement showing wheat exported by Delhi firms during 1880-81-82 *and* 83.

No.	Names of Firms.	Quantity exported in Maunds.				To what places exported.
		1880.	1881.	1882.	1883 to end of August.	
1	Mr. William Wilson .. ~	...	139,750	255,000	434,600	Bombay 604,600. Calcutta 224,750.
2	Messrs. Reinhold Brothers...	...	38,000	110,000	...	All to Bombay.
3	Do. Ralli Brothers	Only	opened on	the 16th	July 1883,	and can furnish no statistics.
4	Mohan Ram—Kanhai Ram	...	...	...	36,000	Bombay 15,000. Calcutta 21,000.
5	Bishan Dial—Hurdial	...	30,000	20,000	40,000	Ditto 40,000. Ditto 50,000.
6	Badri Das—Bhagwan Das	...	75,000	80,000	45,000	All to Calcutta.
7	Tara Chand—Gaushan Das	...	25,000	...	40,000	Bombay 40,000. Calcutta 25,000.
8	Dungar—Hardeo	...	10,000	20,000	20,000	Ditto 43,000. Ditto 7,000.
9	Chuni Lal—Kanhia Lal	...	...	...	12,000	All to Bombay.
10	Kalu Ram—Pirbhu Dial	...	15,000	...	50,000	Ditto.
11	Udham Chand—Ram Partab	...	...	...	25,000	Ditto.
12	Mahtab Rai—Saudagar Mal	...	...	...	25,000	Ditto.
		...	332,750	485,000	727,600	Bombay ... 1,017,600 Calcutta ... 527,750 Total ... 1,545,350

GURGAON DISTRICT.

No. 822, dated 8th September 1883.

From—T. ROBERTS, Esquire, Deputy Commissioner, Gurgaon,

To—The Commissioner of Settlements and Agriculture Punjab, Lahore.

THE only kind of wheat grown in this district is the red, hard-bearded, locally called by the name of "*lál katiya gehún*," of which a sample is sent.

2. The only town which carries on any considerable export of wheat is Rewari, and only one merchant there has sent any consignments to Bombay, none to Calcutta. Wheat is generally sown alone on superior soils, irrigated by canal or wells, because there the grower feels sure of the crop succeeding, on other lands it is usually mixed with barley or gram (1) because, if the wheat fails, there is a chance of the other grain, which is more hardy, and depends less on careful cultivation and climatic changes, producing something; (2) the admixture is supposed to increase the outturn of both grains; (3) and the demand for gram and wheat, and barley and wheat, is much greater than for pure wheat.

3. Even in Rewari pure wheat is not to be got without some admixture of gram and barley. This arises from carelessness in threshing and winnowing, when all three are brought together on the same floor.

4. The produce of Chahi and Nahri lands is comparatively clean, *i.e.*, free from earth and stones, but the wheat grown in the Dahr has always a percentage of dirt in it. This is got from the floors, which are not and cannot be kept clean. The traders say these extraneous substances are never purposely intermixed by them, or by the growers, and they never make any attempt to clean the wheat, or to eliminate other grains. They have no facilities for doing this, and it would not repay them for the trouble and expense.

It pays them better to sell the grain as they get it, even though the rate may be somewhat lower. Wheat is very seldom stored by the growers, who are now too poor to keep stocks on hand, and whenever they keep it, do so without cleaning.

5. No agency for export to Europe has been formed in the district. The Rewari merchant above mentioned consigned to Bombay only, and could not say what was the ultimate destination of his consignment. He sent it just as he received it, without any attempt at cleaning.

6. The dealers at present do not consider the foreign trade of sufficient importance to engage their attention.

A table is appended, showing the transactions of various towns during the last 3 years.

Marts.	Names of Principal Grain Dealers.	Extent of Dealings in Maunds.					
		1880.		1881.		1882.	
		Bought.	Sold.	Bought.	Sold.	Bought.	Sold.
Farrukhnagar.	Jamna, Hardeo, Ghamandi, Harna, Lachman, Chiranji, Bhagwan Das, Chaju Ram,	70,000		100,000		90,000	
Rewari ...	Baldeo, Ram Richpal, Kewal Ram, Khushwaqt Rai, Kishori Lál, Bhawani Das, Nathe, Sarna, Jaskaran, Ramgopal, Ramjiwan, Gurbakhsh, Net Rám, Ude Rám, Shankar Das ...	10,650	10,650	18,650	18,650	14,300	14,300
Palwal ...	Hardial, Chain Sukh, Múl Chand, Chuni Lál, Roshan Lál, Baldeo, Jahangiri ...	5,700		6,000		6,800	
Hodal ...	Baldeo, Radha Kishan ...	4,400		4,600		5,800	
Hasanpur ...	Med Singh, Jodha, Medi ...	7,000		6,900		9,000	
Núh	Deokinandan, Lachmi Narain, Shamsundar, Banni Lál, Johari, Lakhi ...	22,300		15,800		18,400	
Firozpur ...	A large number of small dealers	60,000		60,500		80,000	
Nagina ...	Thandi Rám	8,000		9,000		10,000	
	Total ...	198,600		240,100		248,600	

KARNAL DISTRICT.

Memo. dated 12th July 1883, on the cultivation, preparation, and preservation of wheat for export to Europe, by Major A. S. ROBERTS, Deputy Commissioner, Karnal.

1. There is a fine * tract of 630 square miles on the west bank of the Jumna which is advantaged by the springs from that river, and by irrigation from wells, and from the Western Jamna Canal, and by a rain-fall which averages about 25 inches. A quarter of its area is irrigated, and half is cultivated, and there is plenty of room for and prospect of expansion. It has a dense population, chiefly of the best cultivators, Jats, who are to a considerable extent free of debt and prosperous. Its soil is a rich open loam, the best adapted to the production of wheat, and it exports its surplus yield, chiefly the superior variety soft white, about 60,000 maunds a year, to Delhi, and this when the demand is a mild one for the consumption only of that city.

2. It is extremely accessible, being bi-sected by the grand-trunk road, and is only from 40 to 80 miles from Delhi. It could be connected with that large city, which is the centre of three railway systems, by a light single line of rail at a small cost, and without the necessity of any engineering skill.

3. I will now give a few details explanatory of the above abstract.

Expansion of cultivation.

The Secretary to Government Punjab, Department of Revenue and Agriculture, with his No. 27-364, dated 23rd March 1882, to the Financial Commissioner, forwarded a report on the Drainage of the Western Jamna Canal system by the Executive Engineer Delhi Division (Irrigation), stating in para. 3 that "when the work is sufficiently advanced to render the services of a Civil Officer necessary for taking up, and defining the drainage lines, an application will be made to this department for his appointment." I have no doubt that ere long a good deal of land hitherto covered with swamp ("dry" included) *reh*, &c., will be reclaimed and brought under cultivation, and that when the new alignment, and its distributaries are completed, irrigation will be increased and improved. Only one-half of the entire area of the tract is under cultivation now, and only ¼th of the whole is irrigated.

4. The completion of a Settlement is generally a great incentive to increased cultivation, as the peasants look forward to a generation of fixed land revenue irrrespective of increased cultivation. Since the completion of the Settlement of this tract two years ago, an increase has taken place, and is likely to continue, as there is plenty of culturable land to break up.

Soil.

5. Eighty per cent of the soil of the tract is "rausli," a rich open loam, the best suited to wheat. For this reason rice and sugarcane, which would grow better in "dákar," or stiff clay caused by the action of water, would probably give way in "rausli" soil, if a sufficiently strong demand came for wheat, and cotton too, although it grows best in "rausli," would probably give way under

*BOUNDARIES.—On the north by the Amballa district; on the south by the Delhi and Rohtak districts; on the east by the river Jumna; on the west by the Jhind territory and Nordak tract of Tahsil Karnal.

such circumstances. Inferior wheat, and other inferior crops such as jowár, barley, gram; whether autumn or spring crops, &c. &c. would all make way for whatever crop received an impetus from demand.

Population.

6. The density of population is great, about 450 souls to the square mile. The tenure is bhaiachara, and the cultivators are peasant proprietors. So a demand would come well home to them, and improvements in preparing and preserving grain would be facilitated on the arrival of demand.

7. A large number, particularly the frugal and industrious Játs who predominate in the locality, are quite free from debt, and garner and market their own grain, and indeed export it from the larger villages direct to Delhi, and not *via* Pánipat, and that too although the demand and prices in Delhi have not been much higher than at home. These men would soon take to the better cultivation, preparation, and preservation of wheat, were a sufficiently strong demand accompanied by facilities of carriage, to come to their doors. They are intelligent and hard-working, and their women and children work in the field. A large number are only slightly in debt, and would soon become like their more prosperous brethren, were *outsiders* to come with advances of cash and grain.

8. The remainder, who are at present in the hands of the bannia, would probably to a large extent soon shake him off, for the richness of the soil, and the facilities to production tend to make him independent. As it is, the bannias have not a very strong hold here ; being very numerous, there is a good deal of competition amongst them, 2 or 3 of them often having dealings with the same cultivator. They also have an interest in the soil, in trade &c. &c. The arrival of outsiders and the connection of the tract with Delhi by rail, would soon take out of their hands what little monopoly they may now have in the garnering and marketing of wheat.

Accessibility.

9. Pánipat, which will probably become the chief mart of the tract, is on the grand-trunk road, and only 55 miles from Delhi. This magnificent road has not a single large bridge during this short distance, and a light rail might be laid along one side of it, just as a similar line was laid to Rawalpindi. The culverts for local drainage would probably not require alteration, and no permanent way would be required ; all that would be necessary, besides the sleepers and rails, would be a couple of small stations at Sunipat and Pánipat, and a dozen small choukis for gate-keepers at the various crossings. Very little engineering skill, and a very small outlay, would be required. And in return what advantages ? The whole of the rich tract of the Western Jamna Canal in the Delhi, Rohtak, and this district opened up with its wheat, cotton, sugar, and other products, and its teeming thousands civilized and improved. This short distance spanned &c. we should be in communication with a large city which is the centre of three railway systems. " Beneath the light is the greatest darkness." This district, which has been the longest under British rule in the Province, is one of the very few now left without either a railway or a telegraph. And yet only a few lakhs of rupees are required to give it life and wealth and civilization. I earnestly hope that the enlightened policy set forth in the Resolution under consideration may be extended to this locality.

10. Having given a sketch of the tract where improvements in the cultivation, preparation, and perservation of wheat for export to Europe are feasible, I will now state the evils which exist.

The only demand which has hithered existed, whether at home or at Delhi, has been for cheap inferior, dirty, and mixed wheat for local consumption, the consumer being content to clean it at time of use. The supply, and the processes through which it went, have of course been accordingly poor.

Cultivation.

11. Soft white and hard white have been grown pretty promiscuously, as the cultivators only know them as "*pili túr wali*" or bearded, and on irrigated land chiefly. They have not been mixed with the red which is easily distinguishable, and is grown on dry land, as it is far hardier. Owing to the precariousness of crops on such land, barley and gram are often mixed purposely with the red as a protection from failure of either, and also for home consumption by the poor cultivators, as the yield is greater than of a single crop. A small amount of barley is accidentally cultivated with all wheat of both varieties, as it gets mixed in the garner and market, and is not easily distinguished. The proportion of wheat sown with other crops, to wheat sown alone is about one quarter.

Preparation.

12. The antiquated, wasteful, and risky practice of treading out the corn, and winnowing in the open, with its evils of droppings and dirt, is universal. It is then garnered without any cleaning by the cultivator, when he is not in debt—which is often the case, I am glad to say, in this favored tract,—and by him marketed. Under these circumstances, very little mixing takes place. The remainder is garnered, and marketed by the bannias, who mix up ruthlessly the two white varieties, and wheat and barley. This grain does get a little cleaning by accident when it is weighed on the various occasions when it changes hands. These bannias too supply their clients with this mixed up wheat as seed grain. Grain dealers at the marts also doubtless do a little more mixing and even fraudulent adulteration of bad quality, dirt, &c. with good.

Broadsheets should be addressed to grain-dealers, village bannias and cultivators alike, and should be published at marts and village shops as well as at Zaildaris and Patwárkhánas.

13. As to paras 6 and 7, no arrangements have as yet been made here for cleaning grain, nor have any agencies arisen for the transport of large quantities of grain to export towns or to Europe. The Delhi importers (for local consumption only) have for many years taken the surplus wheat of this district from its principal marts—Karnal and Paniput,—through "Artis" (brokers), who have despatched according to the statistics in the accompanying statement. Wheat has begun to go lately from a dozen large villages near Pánipat.

Wheat in maunds exported to Delhi from the two principal marts in this district during the last 3 years as given by the Committee.

Year.	Mart.	Pili or White.		Lál or red.	Total of 3 kinds.
		Túr wali or Pissia.	Mundhlà or Kathia.		
1881-82	Karnal	12,000	8,000	...	20,000
	Panipat	8,000	4,000	...	12,000
	Total	20,000	12,000	...	32,000
1882-83	Karnal	24,000	16,000	...	40,000
	Panipat	25,000	15,000	...	40,000
	Total	49,000	31,000	...	80,000
1883-84	Karnal	15,000	10,000	4,000	29,000
	Panipat	20,000	10,000	...	30,000
	Total	35,000	20,000	4,000	59,000
Total	Karnal	51,000	34,000	4,000	89,000
	Panipat	53 000	29,000	...	82,000
	Total	1,04,000	63,000	4,000	1,71,000

14. As to the dry and extensive tract to the north and west, I would merely point out that the evils are intensified, wheat-growing forms but a small portion of the cultivation ; is of the poorer and hardier type (red) ; is more mixed with barley and gram, as a protection against the failure of either crop ; is garnered to a greater extent by bannias, and therefore more mixed and dirty, and there is no mart save Karnal, which lies in the irrigated tract.

15. Of the wheat which reaches Karnal it is improbable that any is exported. The demand which comes from Delhi will have to be satisfied in the more favored land to the south before it can advance further. The greater part is under Settlement, and has no Zaildárs or Patwárkhanas, so I think broadsheets and samples will be superfluous here for the present.

16. Copy of remarks by Mr. Douie, the Settlement Officer Karnal, on the subject, is herewith appended.

Copy of No. 231, dated 19th July 1883.

From—J. M. Douie, Esq., Settlement Officer, Karnal,

To—The Deputy Commissioner, Karnal.

Your No. 350, dated 16th July, enclosing your draft report on the cultivation and export of wheat, has reached me in camp, and I have not the letter of the Commissioner of Settlements and Agriculture beside me to refer to.

2. In this district wheat is of course broadly divided into 4 kinds :—

Hard red (Lal Káthí).
Soft red (Lal Sádhi or Pissia).
Hard white (Pili Káthi).
Soft white (Pili Sádhi or Pissia).

Few other distinctions are observed. The chief demand in Europe is for soft white wheat. The red wheat is most largely grown. It requires less water to bring it to maturity than white wheat. The zamindars, where they eat wheat, generally eat the red variety, white being reserved for marriages and the entertainment of guests. The red wheat flour is said to be more strengthening, but the white is more pleasant to the sight and taste.

3. The hard white wheat grown, belongs, generally, I believe, to the beardless (*mundli*) variety, which is more grown in the Khadir than in the Bangar tract. Beardless white wheat succeeds particularly well, when irrigated from a well which is somewhat brackish. It suffers less than other varieties from the drying west winds, which so often prevail in March, and which seriously diminish the outturn of wheat, gram and barley. But on the other hand, its grain, when ripe, is apt to be shaken out of the ear if high winds occur.

4. There is a very fine variety of soft white wheat, known as " Kaghazi," which is largely grown in the Doáb between the Jumna and the Ganges. It is cultivated to a small extent, I am told, in the Pipli Khádir, but I cannot say whether it is grown at all in Karnal. Kaghazi wheat is large in the grain and very white.

5. I am told that in the Doáb the zamindar is careful about the selection of his seed, especially when he grows " Kághazi" wheat. He generally keeps his own seed grain, and takes some trouble to separate the large well-filled grain for use as seed. Still a little barley may remain mixed with the wheat. Accordingly, when the wheat is nearly ripe, the zamindar goes over his field, and plucks all the heads of barley. It is to this cleaning of the standing crop we must look, I think, if anything is to be done to obtain clean seed. The zamindár has not the appliances to clean his grain effectively after it is threshed. In the Pipli Khádir the zamindárs, I believe, take some trouble to sow clean wheat. They keep their own seed if well off, and if badly off, they sometimes borrow money and not grain from the baniya, and buy the seed they require from other zamindars. The cleaning of the standing crop is practised to some extent. It would be worth while to enquire whether any similar precautions are taken in the Karnál and Pániput Khádirs. If there were a cheap and easy means of transport, between Karnal and Delhi, the cultivators of this district might find it worth their while to grow as fine wheat, and to be as careful in the selection of seed, as their brethren across the river.

6. The trades of Karnal fell off when the S. P. & D. Railway was opened. Formerly wheat came to Karnal from across the Jumna. At present a good deal of wheat, sarson, mung, and til is brought to Karnal on carts and camels from Patiála, and exported to Delhi. I believe this trade is already beginning to be affected by the opening of the Hansi-Hissar Railway.

HISSAR DISTRICT.

Extract of a letter No. 166, dated Camp Sirsa, 4th August 1883.

From—Lieut.-Colonel H. GREY, C. S. I., Commr. and Superintendent, Hissar Division,
To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * * * * * * *

2. I believe that the cultivator carelessly garners his wheat dirty, and that dirt is also added by the trader, intentionally, when sending the grain to market. For the clearing of the grain to any purpose only the dealer can be looked to, because the cultivator, whether marketing or storing his grain, has not the sense or the energy to clean it. No doubt the *Baipári* or mercantile traveller makes difficulties about taking dirty grain from the cultivator, but these are settled by a reduction in the price paid.

3. Mixing of seed is not resorted to in good safe land, but is confined to unirrigated land, as security against total failure of produce. Mixed varieties of wheat are not intentionally sown, but such mixture occurs in the grain stores.

4. The above are my own opinions. Those elicited from representative persons, from whom enquiries have been made, vary greatly, as will be seen from the annexed table.

Questions.	Luharu answer.	Dujanah answer.	Sohan Lal's answer Hissar.	Umar Ali's answer Khar Khanda. Rohtak Dist.	Nanak Chand's answer. Badli.	Karimuddin's answer. Sirsa.	Inder Singh's answer. Kutani Jhajjar.	Abdulla Khan's answer. Thopa Hissar.
. Is good, clean, and pure wheat cultivated in your ilaqa or village—if so, to what extent?	Wheat is not at all cultivated in the Luharu State.	Wheat is grown in Dujanah, but not to any extent for export.	Good wheat is not cultivated in the District, of the kind noted in the Circular.	Is cultivated to a small extent, the yield is not large enough for export.	Pure wheat of the kind required for export is not procurable.	Not procurable in the Sirsa District because :— (1) Good seed not procurable : (2). Cultivators are poor and cannot afford to keep cleaned seed from their own crops ; (3). They sow what they get at the time ; (4) They have no time to clean the seed they get.	Is procurable. [It is not noted to what extent].	Not procurable.
2. By whom is dirt mixed with the grain—cultivator or dealer?	By neither intentionally.	Dirt gets mixed up when with the cultivator as also with the dealer ; the ground being hard, mud sticks to the grain ; and the dealer to protect it from insects mixes sand and ashes.	This is done when cultivators gather their harvests on dirty ground. The trader does not mix any dirt.	Same as the Dujanah reply.	By the cultivator, never by the dealer !	Not by the cultivator.	Owing to the neglect of the cultivator the dirt gets mixed up with the wheat.	The dealer, and *not* the cultivator mixes dirt with wheat.
3. To whom should we look for the required cleaning of the grain, the cultivator or the grain-dealer?	To the dealer.	The prevailing custom is to take grain as people find it ; if cleaned by the cultivator, it would be to his profit.	To the cultivator, who can always get clean grain by taking precaution when threshing it.	To the dealer, because he mixes dirt intentionally, and because when he buys it from the cultivator he *always* deducts a certain quantity as dirt.	To the cultivator.	To the dealer.	To the dealer.	To the dealer.

4. As circumstanced, is it worth the while of the cultivator to make over his grain to the dealer in a clean state?	The cultivator *cannot* afford to do this.	As remarked above, the cultivator would profit by doing so; but he will not do it when his grain finds ready sale.	The cultivator *can* do this.	The cultivator *cannot* do this.	...	The cultivator *cannot* do this.	The cultivator *can* do this.	The cultivator *cannot* do this.
5. To what extent does the sowing of wheat mixed with other crops prevail in your village; and with what motive is it practised?	In Luharu to no extent; where it is done, the object aimed at is to have some out-turn, as without mixture, total failure may result.	This is done to suit peculiarity of soil; if pure wheat is sown the yield from some lands is very small, when mixed and sown, the outturn is excellent. This is done in irrigated and unirrigated areas.	In all Dehri and Barani lands this is done, because :— (*a*) the yield is larger; (*b*) labor less; (*c*) No. of waterings required for the mixture is *half* of what is required for pure wheat. The mixtures are :— 1.—Wheat and barley (*gojra*). 2.—Wheat and gram (*gochni*).	The proportion is ⅔ of wheat to ⅓ of gram and barley; the yield is larger; and if one kind fails, the other is sure to produce an outturn.	Same as Sohan Lal's.	On sotur lands wheat and gram are mixed and sown, and the yield is good.	Gram is mixed with wheat.	To secure a crop owing to scanty rainfall mixed-seed is sown.
6. Any other points, or suggestions, if made, what, and how to be carried out.	It is from want of care that different varieties of wheat get mixed up when grown in or about the same place. Wheat produced in different parts of the country (as N. W. P., Oudh and Punjab &c.,) are always kept separate.	When samples are received they will be kept in the Patwarkhana, and the cultivator will be directed to sow the better sorts according to instructions in broadsheet.	To secure good wheat suggests :— (*a*) Samples be collected at Tahsils; (*b*) that cultivators be induced to buy therefrom; (*c*) that in giving such seed, interest charged should be moderate. (*d*) that cultivators be directed to bestow care, as their profit would be larger; and, (*e*) that Baniahs, when they give seed to the cultivators, should give pure seed to them.	There is no mandi at Kharkhanda, but samples can be kept at Patwárkhanahs, which would secure the object aimed at.	Suggests that broad sheets be published, samples of good seed should be kept in Patwarkhanahs, and inducement offered to the cultivator to raise pure crops.	Suggests that every facility should be given the cultivator to have pure seed. Notes, names of places where wheat before being exported is cleaned, and which in the end is very profitable.	In Jhajjar there are 3 mandis; great care is always taken to have good and pure wheat ready for export, *greater* care will henceforward be taken; the cultivators have been advised & will be further advised to make every effort in this direction.	Notes that broad sheets should be published, and good seed distributed.

Extract of a letter No. 541, dated 20th August 1883.

From—G. M. OGILVIE, Esquire, Deputy Commissioner, Hissar District,

To—The Commissioner of Settlements and Agriculture, Punjab,

* * * * * * *

4. The first question is how to develop the cultivation of the finer sorts. The best kind, "Pummun," may be said to be cultivated only as a fancy crop. There is not sufficient local demand for a larger quantity, and it is not grown for export. The common people of the district prefer for their own food what we should call the inferior kinds, known as "Pissia" and "Kathya." "Pummun" wheat is said to require a great deal of care, and without doubt the land sown with it requires free and sufficient irrigation. But if a demand for this kind were to be created by the development of export trade, there appears no reason why "Pummun" should not be grown on a considerable part at least of those irrigated lands which are now sown with the second quality of wheat called "Pissia." At present, however, no wheat is sent from this district for export to Europe; and whatever export has hitherto existed has been chiefly to the neighbouring regions of Rajputana. Until therefore a regular export trade be developed it is not likely that Pummun wheat will be raised in any considerable quantity. The second sort, called "Pissia," seems to be the most popular kind with local consumers. The third kind, known as "Kathya," is adapted to lands dependent on rainfall, or where the irrigation is deficient and precarious; and it would not be possible to substitute any finer kind in place of "kathya" on these lands. It is even said that the common people prefer *kathya* to *pissia*, and this not on account of the price which is about the same for both kinds, but because they consider it more nutritious.

5. The second question is, how cleaner grain can be obtained for export. The general result of the inquiries that have been made on this point is as follows. The cultivator is indifferent on the subject, but does not designedly mix dirt into his grain. He has not the means of cleaning it, but sells it to the grain-dealer just as it comes off his threshing-floor. It is generally admitted that it is the grain-dealer who is chiefly to blame for the dirty state of the grain in the markets. He also appears to be indifferent on the subject; but to clean the grain is unquestionably an easier matter for him than for the cultivator. To the latter in the present state of agricultural arrangements, which are not likely to change, and especially taking into account the deficiency of barns and buildings for storage of grain, the operation of cleaning is nearly impossible. It would not therefore be of any use to attempt to impress the advantages of cleaning grain on the cultivators. It is to the grain-dealers that we must look for improvement in this matter.

6. The next question is as to the mixture of wheat with other grains. I would observe that it does not follow that because another crop is sown with wheat the grain is therefore mixed. Grain is commonly sown with wheat on the lands on which *kathya* (No. 3) wheat is sown. The object of the cultivator is to secure the gram crop even if the wheat crop fails, as the former requires less moisture than the latter. But the grains are not mixed at harvest. The agriculturists do not willingly or knowingly mix different kinds of wheat together, or mix barley with wheat. When the zamindar keeps his own seed, it is generally unmixed; but the grain merchant often gives him wheat of different kinds mixed together, or wheat mixed with barley.

The grain merchants commonly mix together the two kinds of red wheat known as *pissia* and *kathya*, storing what they obtain in the same place and selling the mixed wheat both for food and seed. It is thought also that a proportion of barley is sometimes fraudulently mixed with seed grain sold by the dealers. The obvious remedy is that the agriculturist should be encouraged as far as possible to keep his own seed.

7. The other questions contained in paras 6 and 7 of your letter can be briefly answered. In this district the export trade is quite undeveloped. No such agencies as those mentioned have as yet been established. There has been some export trade towards Bikanír (where wheat is scarce) : but none elsewhere. Between fifty and sixty thousand maunds are said to have been annually exported during the last 3 years. The kinds exported are Nos. 2 and 3, *pissia* and *kathya*. The character of this market, as may be imagined, is not such as would render necessary any special arrangements for cleaning or separating the kinds of grain. The Tahsildar of Bhiwani however reports that in the current year about 25 thousand maunds of No. 3, *kathya* wheat, have been exported by rail to Bombay, and it is possible that this may be the commencement of a regular export trade to that port. If so, it may be expected that the improvements which are the subject of this letter, will acquire more importance in the estimation of grain-dealers in this district than they have hitherto possessed.

ROHTAK DISTRICT.

Extract of a letter No. 533, dated 9th November 1883.

From—H. W. STEEL, Esquire, Deputy Commissioner of Rohtak.

To—The Commissioner of Settlements and Agriculture, Punjab, Lahore.

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4. To insist upon the sowing of a particular kind of wheat on a laid down principle, is a measure that requires very gradual introduction. It is true that the advantages are great, but a sudden and direct interference on the part of Government would, at least till the benefits are made apparent to the cultivators, be regarded with repugnance. In a measure like this the co-operations of the Tahsildárs and the influential leading men of villages should be made the first step, and as the measure gains ground further advancement could be made. But all this requires time, and if you concur with me in the views expressed I will take steps to put them on foot.

5. The adulteration of wheat is due to the ignorance and carelessness of the cultivators themselves, and not to any malpractice on part of the purchasers, though one Tahsildár urges that the cultivators are somewhat alive to the importance of keeping wheat clean and the advantage derived by doing so, but that they are too lazy and rather prefer to suffer loss than undergo the toil of preventing adulteration.

6. No appliances are at present used to prevent the mixing of dirt,—a difficulty that cannot easily be surmounted under present circumstances, but if the threshing-floors were made of lime at the expense of the village fund, the evil complained of by our English traders could be remedied, if not entirely, to a very great extent; but it will be necessary for the cultivators to cut the wheat with a sickle from the roots to avoid dirt, and not uproot the stalks as is sometimes done, though it is not a common practice.

7. The task of keeping wheat clean should be imposed on the cultivators, as the precautions necessary at the time the wheat is cut and threshed are less expensive and less troublesome, than if left to the traders, for with them the process would be a complicated one and would add to greater expense. This is a matter, however, that would not, I think, require any very strenuous efforts, and could, with a little advice from the Tahsildars through the medium of the Zaildárs, be brought to a successful end, in the course of a short time.

8. The cultivators as a rule are not alive to the advantage gained by keeping grain clean when storing it in barns, nor do they show any interest in making over grain in a clean state to dealers, but both of these points are susceptible of remedy, as I have described in the preceding para.

9. The practice that obtains almost everywhere in this district of mixing either gram or barley with wheat, is due to the belief that it acts as a guarantee against total failure of the crop.

The proportions vary in each Tahsíl thus :—

		SAMPLA.	
Jow or gram	$\frac{1}{10}$th.	Wheat	$\frac{9}{10}$th.
		GOHANA.	
Do.	$\frac{1}{4}$th.	Do.	$\frac{3}{4}$ths.
		ROHTAK.	
Do.	$\frac{1}{6}$th.	Do.	$\frac{5}{6}$ths.
		JHAJJAR.	
Gram	$\frac{3}{4}$ths.	Wheat	$\frac{1}{2}$rd.
Jow	$\frac{1}{2}$	Do.	$\frac{1}{2}$

Gram and wheat sown together is called *gochni*, and wheat and barley *gojra*.

10. Amongst the many reasons urged for cultivating mixed crops the chief are—

(*a*).—A mixed crop thrives better.

(*b*).—Requires less ploughing, for when wheat is sown alone there must be 8 ploughings, whereas a mixed crop requires only five.

(*c*).—The yield is larger.

(*d*).—Irrigation or rainfall is not so much needed, and it is for this very reason that mixed crops are mostly sown in Barani lands.

(*e*).—A mixed crop acts as a guarantee against total failure of produce.

11. Red and white wheat are never sown together, but separately, and care, as far as it is practicable, is taken to prevent the two descriptions getting mixed together.

12. The white wheat is used chiefly at marriage feasts, and the red is reserved for daily use.

13. Exportation of wheat is not very extensively carried on, but the little that is exported is chiefly consigned to Beri, Delhi, and Bhiwáni.

14. There are no grain-dealers in this district that carry on the business on a large scale, and those that do show a little enterprise in this way seldom or never make it a point to clean grain before it is exported.

SIRSA DISTRICT.

Extract of a letter No. 478, dated 20th August 1883.

From—Major H. M. M. WOOD, Deputy Commissioner, Sirsa District.

To—The Commissioner of Settlements and Agriculture, Punjab.

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3. The cultivator sends the grain to market uncleaned, but does not, so far as I can learn, add dirt to make weight. The usual allowance made here for dirt is one seer per maund (2½ per cent). The cultivators do not store grain on any large scale. But the "bunniahs" no doubt hold large stocks. No wheat is exported from Sirsa and Dabwali, and a comparatively small quantity leaves the Fazilka Tahsil, although Fazilka itself is the centre of a large river-borne traffic.

4. As to the sowing of mixed grains, the following information is submitted: wheat and grain in the proportion of 2 to 1 are sown together, and the mixture is called *gochni*.

Also barley and gram known as *bejar*, and wheat, barley and gram called *gojri*.

This system of mixed sowing is very much resorted to in this District, specially on indifferent soils. The advantage claimed for it is that there is both a greater certainty of a crop and a very much greater outturn, sometimes double that of single sown wheat. Thus—

1 biga sown with	12 seers of wheat	gives	3 or 4 maunds.
„	10 seers of gram	„	5 or 6 „
„	11 seers of mixed seed	„	8 or 10 „

I am assured that this is the case (the figures are for a good harvest), and I have received the same reply from different sources.

5. The reason given for this is that the gram plants not only afford a certain amount of shelter and support to the young wheat (their roots striking deep, while the roots of the wheat are near the surface), but that the latter benefits by an acid exudation from the gram, known as *turshi*. Moreover from the gram taking a better hold of the soil it is less liable to suffer from vicissitudes of climate than the wheat, and in case of the latter failing from scanty rain-fall will generally produce a crop with a very small quantity of rain. Another reason given for the mixed sowings is that where *roti* made of the mixed meal is used, vegetables are not required, or used, the mixed meal supplying the required variety.

6. The only export of wheat is from Fazilka which is the centre of a large river-borne trade. Each trader sends to Kurrachi and Sakkar on his own account, there being no special agency for exportation. The white wheat (Daudi, Ghunni, and Phumman) are chiefly exported, while the red wheat (Ratti) is sent to a limited extent.

7. No special arrangements have been introduced for cleaning the grains before sending it for export.

Memo. dated 13th November 1883, by J. WILSON, Esquire, Settlement Officer, Sirsa.

Wheat is the staple crop on the irrigated lands of the Ghaggar and Sutlej, and the average area sown has been estimated as 9,000 acres on the flooded lands of the Ghaggar and 9,500 on the Chahi and flooded lands of the Sutlej Hitar, but in a good year nearly 20,000 acres of wheat may be sown on either river. In the Hitar about 3,500 acres are sown on the lands irrigated from wells, and 6,000 acres on the flooded lands. The average outturn may be taken as 8 maunds per acre on the land irrigated from wells and 6 maunds per acre on the flooded lands of both rivers. In favorable years the hard clay of the Sotar where thoroughly moistened is sown with wheat, and sometimes produces excellent crops, as in 1882 ; and on the Sutlej, when the floods fail, patches of low-lying land where the rain water has collected are often sown with wheat. In both cases the average outturn may be estimated at 6 maunds per acre. The estimated average area under wheat in the dry tracts is only 7,000 acres, but its cultivation seems to be spreading. It requires more careful cultivation than barley, and the seed is more expensive, but the produce is much more valuable, though the average outturn is rather less, being about 4 maunds per acre. Wheat is much preferred for food to any other grain, except rice ; it is the ordinary food of the Musalmans of the Sutlej Hitar, but is a luxury to the inhabitants of the rest of the District. The straw (*turi*) of wheat is used for fodder, but is not nearly so nutritious as that of barley and commands a lower price. For wheat cultivation the ground is prepared during the rains by ploughing and pulverising it twice or thrice, and the seed is sown in October or November, about 20 sers to the acre on unirrigated land, 30 sers on flooded lands, and 40 sers on land irrigated from wells. On flooded and unirrigated lands the crop is left to itself and not even weeded, but on wells, especially in dry seasons, it is irrigated as often as the capacity of the well allows. Some of the wheat crops on wells and even on flooded lands in the Hitar are excellent, almost as good as can be seen anywhere in India ; but these are the exceptions, and often the straw is stunted and the outturn poor. The grain produced in the Hitár is often large and of excellent quality, but that of the uplands is generally small, dry, and shrunken. The crop is reaped in April and May, and threshed by means of bullocks treading it out on the bare ground. Considerable care is taken to clean the wheat and to keep the seed free from other grain, especially from barley. Sometimes wheat is sown mixed with barley and gram (*gojá* or *berrá*), if mixed with barley alone it is called Jawáli wheat, and if there is no barley in the mixture it is called Najawi ; but the area sown with these mixtures is small (only 500 acres being so returned in 1881 and 1,700 acres in 1882), and wheat is ordinarily sown alone. In the Hitár three varieties of wheat are grown : (1) the ordinary red wheat (*ratti* or *lál kanak*), also called Kálchingári, because the beard (*chingár*) gets of a dark colour when

ripe. This is the wheat ordinarily grown in the uplands also. Its ears (*sitta*) are about three inches long, and the grains run in two lines, which make the ear look two-sided ; the grain itself is short and thick ; (2) Pamman, with a dark green beard and general dark colour in the sheaf, has distinctly two-sided and heavy ears from 2½ to three inches long, and a long thick and soft grain ; (3) Dáúdi, which again is divided into three sub-varieties—(*a*) Goni or beardless (literally "hornless") with short light-coloured ears from two to three inches long, but sometimes (Chaughundi) having as many as four lines of flowers (Ghúndi) ; its grain (*dáná*) is white, thick and soft, and makes very white bread ; (*b*) Nárí Dáúdá or bearded (literally "horned"), having whitish ears from 3 to 4 inches long, and a white beard ; its grain also is white, thick, and soft ; (*c*) Paháran, so called because its seed (*bih-bij*) was brought from the hills (*pahár*) some ten years ago by the Banyá who owns part of Ráná, with long pointed beardless ears from 4 to 5 inches long, and a reddish appearance ; the grain is thin and reddish, and although the ear is longer than that of Goni Dáudí, it is thinner and has only three lines of flowers (Trighund), and so produces less than the indigenous *goni*. Except the *paháran* variety, these are all said to be old wheats, well-known in this part of the country ; and it says much for the care with which the seed is grown that they should be so well distinguished. They seem to be sown without distinction on all kinds of irrigated soils, but Pamman and Ratti-kanak are said to require more moisture (*tarawat*) than *goni* wheat. Goni Dáudí is considered the best variety because of its whiteness ; and if ordinary red wheat is selling at Rs. 2 per maund, Paháran will fetch about Rs. 2-1, and Goni, Nárí and Pamman about Rs. 2-4 per maund. Sometimes a grain or two of oats finds its way into a wheat-field, but the people do not know it as a separate crop, and say that it is wheat which has deteriorated or become diseased.

AMBALLA DISTRICT.

Memo. dated 14th November 1883, by A. KENSINGTON, Esquire, Settlement Officer.

Area under wheat cultivation.

1. The total cultivated area of the Amballa District is 929,041 acres. The average area sown with wheat during the last 10 years is 315,000 acres. For the last 5 years the average is 350,000 acres, the years 1873-4 to 1876-7 having been conspicuously below the average of the decade.

Classes of wheat.

2. Three qualities of wheat are generally recognized by the trading community :—

(1) *Pili* or *Sufaid gyun* (Panjabi *Daud Kháni*) a white soft wheat giving the best yield of flour. This is recognised both by zamindárs and merchants as the best quality of wheat, and is especially in demand for export trade, but it requires high cultivation, and is only grown on irrigated or sailab lands. The Amballa district is almost entirely báráni, and this wheat is therefore, comparatively speaking, not generally grown. The merchants would be glad to get as much white wheat as they could, but up to the present the zamindars make no attempt to supply the demand. This wheat always stands one or two seers higher in the market than other qualities.

(2) *Lal kanak*, a red soft wheat grown equally well on all lands. This is essentially the wheat of the Amballa district. It is a very hardy variety, giving a good yield of flour, and is at present much the most popular with the zamindars.

(3) *Kathiya, Kathi*, or *Khanaku*, hard white wheat giving a very fine white flour, but yielding a small outturn. This wheat is only grown on high class lands, and for special purposes, such as weddings, confectionery &c., for which a very white flour is required. In the Punjab this is known as Mundli. The area under cultivation is quite insignificant, and there is no general demand for it in the trade.

Cleaning wheat.

3. (*a*). The advantages of cleaned wheat are well known both to zamindars and the trade, but up to the present no steps have been taken to ensure greater cleanliness. No special attention is paid to the point. The zamindars still send the wheat to market with a mixture of not less than 2 to 3 % of mud, and this is only roughly sifted out by the dealers with the hand, at least 1 per cent of dirt remaining even in the wheat intended for export trade.

(*b*). Dirt is not intentionally added by either cultivators or dealers. It is mixed with the wheat during the garnering, and no energetic steps are taken to remove it at subsequent stages.

(*c*). On reaching the dealers wheat is stored either in the mud barn (*kotha*), or in a hole in the ground (*katha*). The place of storage depends on the state of the market. If the market is brisk it is stored in the barn, and if dull it is buried. It keeps well in the barn for four months, but then gets eaten by weevils (*susri*) ; when buried it will keep well for a year, but after that acquires a strong musty flavour, which takes off much from its trading value.

Mixed grains.

4. Wheat intended for sale is always sown pure. Mixed crops with barley and gram are popular when the crop is intended for home consumption. The reasons given are :—

(1) That in unirrigated lands there is a better chance of a good return from a mixed crop. If one crop fails from the circumstances of the season, the other may succeed. There is at any rate less risk of an absolute failure of the crop.

(2) Barley and gram give a heavier outturn than wheat.

(3) Mixed grains are more satisfying as food than wheat alone. Wheat is eaten pure by the trading and better classes, but agriculturists and laborers of all classes prefer mixed grains.

In the Amballa district wheat is generally grown for the home consumption of the district, and mixed crops are therefore common.

Selection of seed.

5. Different qualities of wheat are never sown together intentionally, but the seed is not carefully selected. Red and white wheats are kept carefully apart, but no special pains are taken to eliminate foreign grains. Even at the best of times there is always a mixture of 2 or 3 % of barley in the wheat brought to market, and no steps are taken by the dealers to sift this out. The dealers always keep the different qualities of wheat carefully apart in their own stores. Any mixing takes place before the grain reaches them, and their own liability extends only in so far as they do not hold out any special inducements to the cultivators to

be more careful in the selection of seed for sowing. Unless the foreign grains are eliminated before sowing, very little can be done to improve the grain brought to market. I have heard that in some cases zamindars cut out the ears of barley in the fields as the crop stands ripe, but this is not common. There is no doubt that much remains to be done in inducing the cultivators to take greater pains over the selection of seed.

Trade.

6. Amballa city and Jagadhri are the chief markets for wheat in the district, and some export trade is carried on with Meerut, Delhi, Calcutta, Bombay, and Karachi. Speaking generally, the demand for home consumption, and for use in hill stations, is so large that the export trade is at present insignificant. What wheat is exported is perhaps grown in Pattiala rather than Amballa, but the total trade transactions are not important, and so far the trade does not seem to be on the increase. No special measures have been taken in late years either to improve the quality of the wheat for exportation, or to facilitate export trade. Selling agencies are established at Bombay, Calcutta and Karachi : 1 % being charged at each of the two former, and 12 annas at the latter. White wheat is much preferred by the exporters when it is to be had, but the supply is limited. No special agency has been established anywhere in the district for the collection of wheat supplies, and there is no co-operation among the different dealers. The number of regular wheat merchants is small, and the chief trading is in gram and autumn crops, not wheat.

Exports.

7. The total exported trade as stated by the dealers for the last four years is as follows :—

	From Amballa.	From Jagadhri.
	Maunds.	*Maunds.*
1880	30,000	...
1881	40,000	10,000
1882	1,00,000	17,500
1883	30,000	10,000

In 1880 10,000 maunds were sent to Karachi, and again in 1882 there was some trade with Karachi. Otherwise the exports go either to Calcutta or Bombay. The Amballa district is not well situated with regard to any of the great markets, and it seems doubtful if there is any opening for a largely extended trade. The exports may perhaps be understated, but not I think largely so. There is no speculation, and probably the hill stations already carry off nearly the whole surplus produce, and for these local markets the wheat as now grown is quite good enough. Taking the average cultivation for the last five years only (350,000 acres) and assuming an average outturn of 6 maunds per acre, we get a total production of 2,100,000 maunds of wheat. I do not think that 6 maunds is too low an all-round average yield for the land reported as under crop, especially, when it is considered, that much of the land hitherto reported as under wheat, is really under mixed crops. The home consumption (Famine Commission report, Punjab, Vol. I, page 144) is estimated at 1,873,109 maunds. To this also the amount required for hill stations has to be added, and it is quite clear that there can only be an inconsiderable balance available for export to foreign countries.

LUDHIANA DISTRICT.

Extract of a letter No. 1465, dated 4th September 1883.

From—G. E. WAKEFIELD, Esquire, Deputy Commissioner Ludhiana,

To—The Commissioner of Settlements and Agriculture, Punjab.

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Arrangements for exporting clean grain.

5. I proceed first to answer the questions put in para. 4, before noting the result of the consultation.

(*a*) The finer kinds of wheat can be cultivated on the unirrigated lands, but the great objection to the cultivation of these kinds is that both in irrigated and unirrigated, the produce in grain is about 10 per cent less than the out-turn of the coarser red wheat.

(*b*) The cultivator never garners in a dirty state; there is seldom more than ¼ seer in the maund when it is garnered and the same when it is stored. It is remarkably free from dirt while with the cultivator, and therefore no measures are necessary in that direction.

Dirt is never put in by the cultivator.

The dirt is mixed with the grain in the first instance by the cart-men who bring it in, and who are also traders. About 90 per cent of these men do not bring their *own* grain. They buy it from the producers and bring it to Ludhiana on speculation. These men both water it and mix dirt with it. There are 10 or 11 villages in the Ferozepur district in which the lower classes, such as Chamars, sweepers &c., make it a trade to supply different colored earths to suit the color and size of the different kinds of grain. The earth is worked into small grains to look like the grain, and the traders say it is almost impossible to winnow out this description of dirt. The cultivators never mix dirt with the grain when garnering. It is cart-men or first traders and carriers who do this, as above described. Water again is put in to increase weight. There is a pond at a village called Pindori, 14 miles out on the Ferozepur road, about 2 miles from the Dakha encamping ground, where thousands of carts put up. I have often wondered why they put up there in preference to the encamping ground. I supposed it was for the convenience of the large pond and the water in it, and so it was, but not in the sense that I supposed. I now learn that it is a great place for watering the grain in order to make it weigh heavier. I see it noted in a paper in *The Agriculturist* for September 1883, page 332, that any "dampness in grain causes it to weigh lighter instead of heavier (a fact which will surprise the uninitiated);" But the traders here say that this occurs after a time. The immediate effect of watering is to *increase* weight. I intend to subject this to experiment and think their theory is correct as also that in *The Agriculturist*.

The carrying traders (cart-men) mix water and dirt with the grain.

Villages in which the menial castes sell earth assorted to suit the different kinds of grain.

Watering grain to increase weight.

All these practices are resorted to by the conveying traders in self-protection against the tricks of the brokers who rob them in various ways. The common well-known and scarcely denied method adopted by the brokers, who have a slang dialect of their own, is what they call "killing flies." The weighing is done in batches of *dharis* of 4 seers *pakka* or 10 seers *kacha*. In counting the *dharis* the Jat

Broker's tricks.

being careless and not checking the counting, they will repeat the same number over again, and this one *dhari* is fraudulently short-weighed and "one fly killed." A sharp weigher will often secure 8 or 10 *dharis* during the day, getting a maund of grain and clearing 2 or 3 rupees in short weight alone. The traders who buy the grain at Ludhiana and export it, also mix earth with it and so it often goes to Bombay and Karachi in such a state that it is rejected there. This evil is, however, meeting its own remedy, one trader spoke as follows :—

"Wheat and Sarson are lying in Bombay and Karachi, because sale can-"not be secured. We have suffered, and will in future send it clean. We "have no agents in England. We sell it through agents or brokers in Bom-"bay and Karachi, who purchase it outright from us and export it."

Proposals to secure the export of clean wheat.

To remedy the evil of adulteration as above described, the traders and brokers here have amongst themselves, after some days disputes and discussions, framed the following rules:—

1st. That they will not purchase or export grain mixed with dirt, and in order to ensure clean grain, winnowing machines have been made up to a pattern procured from Calcutta by Jassa Mal.

2nd. The brokerage dues to be limited as follows: Re. 1 per cent on value from sellers, and 7½ anas per cent on value from purchasers and 4 anas per cent for weighing from the purchaser, which makes 11½ anas per cent from the purchaser.

3rd. Short weighing or deceit in the matter of current rates to be abandoned.

The above rates are for edible grains. The brokerage on other articles of trade is double the above rates in the matter of brokerage only. The weighing charges are the same.

It is clear from the above that exporters are becoming very alive to the necessity for sending clean grain, and have made extensive arrangements here for securing this object.

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* [*Note.*—I have inspected one large winnowing machine made up here by Jassa Mal for Rs. 125, according to a pattern he had seen at Karachi. It is worked by hand. He thinks they could be made up for Rs. 100. It is made for Sarson, and will clean 700 pakka maunds of Sarson in a day, worked by 12 men. That is, it is put in, cleared, separated, and put into sacks.

It is a long cylinder worked by a handle, and the compartments are enveloped by fine wire in the first half, which lets all the dust through, and coarser wire in the second half, through which the Sarson escapes. Grains of barley or wheat run right through and fall out at the entrance to the cylinder, which is open at both ends. They have also hand-sieves which are suspended by rings at the corners and worked by four men, two who shake the sieve by two ring handles, and two to fill and remove the grain. One of these small sieves will separate gram and barley or wheat 500 pakka maunds in the day.

Jassa Mal makes up and sells these sieves and lets them out on hire. He has sold about 20, and charges 1 ana hire for the day.]

6. In reply to para 5 in the matter of sowing wheat mixed with other crops. *In irrigated land,*—wheat is never sown mixed with any other grain. *In unirrigated land,*—it is often mixed with barley and gram, indeed scarcely ever sown without mixing in unirrigated lands, because it is a very precarious crop. By sowing barley and gram with it they consider that they are pretty sure of securing one good crop. Barley and gram are generally sown alone, and not mixed. In most of the jungle tract wheat is generally sown with gram, more with gram than with barley. At harvest time they are put away mixed, but when they bring it to market they separate the wheat from the barley and gram. They commonly eat flour made from wheat and gram mixed. They seldom mix the varieties of wheat but sow them separately. The red wheat is what they mostly sow, because it gives the largest out-turn. They do not care for the other sorts. The banias who store the grain buy promiscuously and store it together, and so it often gets mixed. The white specimens of wheat require more elaborate cultivation. The white wheat grain is considered inferior in quality to the red wheat,—not so nourishing.

Sowing wheat with other grain.

The question of arrangements for cleaning grain has been disposed of in para 5 of this report. No new agencies have been established here for the export trade to Europe or to export towns other than the old existing agencies described above.

But as above described, there is a very large export trade here, grain being sent to Bombay and Karachi to agencies who sell it to exporting firms. Dealers from other portions of the province and N. W. Provinces often come here and purchase export grain.

7. Ludhiana itself is the principal grain mart of the district, as also of the tract called the "Jungle," which may be best described as circling 50 miles round Bhatinda. The greater portion of the export grain of the Ferozepur district and the jungle tract, is brought to Ludhiana to the railway. It has been roughly estimated that 45,00,000 or 45 lacs of rupees worth of grain has been exported from here within the last 3 years. I remember that during the Madras Famine in 1878-79, 30 lacs of maunds of grain were calculated to have been exported from this.

Ludhiana a very large export market.

The variety of wheat preferred by the traders for export is the red wheat, No. 1 of the accompanying specimens. The reasons for this preference have been stated in detail above. It is the sort mostly, almost totally, produced. It is considered very good in the matter of outturn and nourishment, and I remark quite holds its own in the London market. This red wheat gives a very fairly white flour, and should not be confounded with the hard red wheat produced in Ambala, Saharanpur &c. A very interesting paper on Indian wheat, pages 331, 332, 333 of the *Indian Agriculturist* for September 1883, describes this wheat, I think, as the "Indian superior soft red," and I remark that at the close of the article the following sentence is in italics—"*glancing at all the facts here elaborated, it is evident that these wheats afford a larger margin of profits both to the miller and baker than any other.*"

8. As regards the distribution of broadsheets, I venture to suggest that lithographed sheets might be printed in each district and distributed to all villages, printed half margin in Urdu and Gurmukhi, or in lieu of the latter

Distribution of broadsheets.

whatever dialect may be peculiar to each district, containing concisely worded hints on agriculture, on subjects which, after experiment and maturing, may be considered as based on established facts and safe as guides for improvement. The sheets to contain very concise remarks confined to each subject, and not more than one subject in each sheet. The Patwáris might be made the medium of distributing and reading the sheets to Lambardars, and to report on behalf of each village within a fixed time noted in the sheet, the action that people may have been able to take in the subject-matter of each sheet. The subjects mooted in the matter of wheat cultivation might be made the subject-matter of a sheet of which a rough frame work is noted as follows. I venture to make the first clause a point which I have myself for years tried to impress on cultivators, *viz.* the importance and notorious (in Europe) practicability of improving seed by selection.

Rough draft of proposed broadsheet in the matter of cultivation and export of wheat.

Rough draft of a broadsheet regarding the cultivation and preparation for advantageous export and sale of wheat :—

1st.—Whatever seed you use, try and improve it each year in your own land by selection. Go round your fields and select the best grown plots for seed for next year's sowing, and doing this each successive year, you will secure a fine stock of improved seed. If your own field has no good produce, then go to neighbouring plots or villages or towns for really good seed, fine well grown and developed grain. Never be careless in selecting the best description of grain for seed.

2nd.—If you wish to raise good and profitable wheat for trade purposes, never mix any other grain in sowing. On the contrary, see that no other grain remains in the seed sown.

3rd.—The soft white wheat is the best and most profitable for export purposes, and it will be to your advantage to increase the cultivation of that as far as possible.

4th.—The next best grain is the soft red wheat so generally cultivated. Pains should be taken to improve the seed of this sort by the process described in para. 1, that is by selection.

5th.—In harvesting be careful to winnow the grain clear of all dirt and admixture of other sorts of grain, and store it in a perfectly clean state.

6th.—When taking it out or to market for sale, be careful not to let dirt get into it or be added to it. Any present advantage gained will be in the end a serious loss by depreciating the value of your own grain in the great marts. The brokers are reducing their charges and binding themselves down to abstain from fraud in weighing &c., and there will therefore no longer be any necessity for your employing fraud in the matter of watering, mixing earth &c.

9. In conclusion, I beg to remark that when the Sirhind canal, which spreads like a net-work over the great grain-producing jungle tract, is in full flow, the cultivation of white wheat will become more feasible, and if stimulated, general. Although none of the agriculturists I have consulted exactly say this, I feel convinced that the ordinary Barani or unirrigated lands of this tract do not receive sufficient rain moisture to allow of the successful

cultivation of white wheat. Artificial irrigation is necessary to supplement the rain-fall which, I suppose, does not average in this tract more than about 18 inches during the year.

As regards the Ludhiana wheat trade, and the present resort of the grain traders of the jungle tract to Ludhiana as a centre for export, the Ferozepore and Rewari railway road which will run through the centre of the tract, will probably take away more than half the trade from Ludhiana.

JALANDHAR DISTRICT.

Extract of a letter No. 179, dated 25th July 1883.

From—Lieutenant R. C. S. MACAUSLAND, Officiating Cantonment Magistrate Jalandhur.

To—The Deputy Commissioner, Jalandhar.

* * * * * * I find

(*a*). That the cultivator garners the grain in a dirty state ; and, as far as I can ascertain, the grain is sent to market in the state in which it is garnered, and that dirt &c., as a general rule, is not further mixed with the grain by the cultivators prior to sale.

(*b*). The cultivators say they do not clean the grain they store ; nor, as above stated, do they clean it previous to sale ; but they are, no doubt, alive to the necessity of storing grain in a clean condition, and to the fact that it is greatly to their interest to clean it before sale in the open market. They have no means or appliances for the purpose of cleaning their grain other than the laborious process of cleaning it in the open air by means of sieves ; and they probably find it more paying in the end to store or sell their grain as garnered, than to expend time and labour over thoroughly cleaning it by this process.

(*c*). The traders of the Cantonment have no machinery or appliances for thoroughly cleaning grain after purchase and before despatch to a seaport town for export ; and they inform me that previous to despatch all they do is to remove the grain, allowing barley &c. &c. to remain.

(*d*). An agency for the purchase of wheat and despatch of the same to Karachi has been lately established in the Cantonment by the firm of Salamohomed Oomerdasa of Karachi, and the agency business is conducted by their Gomashta Jeea Lall.

(*e*). "Red wheat" is, I may say, the only variety of wheat despatched from the Cantonment for export ; this is not owing, I believe, to a preference being shewn for this variety for exportation by the traders, but purely for the reason that white and yellow wheat are not produced in sufficient quantities in this district to make the purchase and despatch of these varieties remunerative.

2. The principal traders of the Cantonment are :—

(*a*). Nouid Ram and Radhakishen,
(*b*). Phammun Lall and Milkee Ram,
(*c*). Dowlat Ram and Said Mull,

and the only agency established is that of the firm of Salamohomed Oomerdasa of Karachi.

3. The wheat despatched from the Cantonment to seaport town for export for the last three years is as follows :—

		Maunds.
In 1881	...	71,781½
„ 1882	...	146,672½
„ 1883	...	171,388¼

Memo. by A. A. SHIRCORE, Esq., Barrister-at-Law, dated 13th August 1883.

Jalandhar Wheat.

The first question embraced in para. 2, clause II, for consideration is how to get cleaner grain available for export. By clean, I take to mean free from dust, chaff, and stalk.

The principal reason why the wheat of this district, and, indeed, of the whole of the Punjab, is found with an admixture of dust, is by reason of the mode of threshing observed by the cultivators. The natural floor is used, hence by the constant treading of the bullocks a great deal of dust gets mixed with the wheat, varying from about a half to two per cent. according to circumstances.

The second reason why dust is found is that the grain is exposed to the air; but the amount of dust caused in this way must be very trifling and of no consequence.

The third reason is that now and again a few unscrupulous fellows mix dust with their wheat in order to defraud purchasers. This is done sometimes while storing away the grain, and oftener at the time of bringing it to market. This practice can be easily checked by purchasers refusing to buy such grain. Indeed, persons who have brought dirty grain to market have generally suffered by not finding a ready sale, or by obtaining low prices.

The most effectual way for obtaining wheat free from dust is, by getting the cultivators to observe a better mode of threshing their wheat. If a masonry flour were used instead of the natural floor, or cheap hand-threshing machines, the dust now found would all but disappear. The cultivators of this district, true, are very poor; but a few could easily join together and adopt an improved mode of threshing. To the use of machinery there is this great objection, that artizans could with difficulty be found for repairing it, especially in towns and villages.

To remove the dirt and foreign grain admixture always found in the Indian wheat, exporters in Bombay and Kurrachee always put the grain through expensive cleaning machines. I should think at least five per cent. is lost to the Indian cultivator, in consequence of the inferior quality of his wheat. Indian cultivators and traders could very easily adopt cheap hand-cleaning machines with much advantage ; but until the export trade is more thoroughly established and developed, I do not think any improvements will be undertaken. Cleaning the grain after it has been threshed will not strike at the very root of the difficulty, and will bring with it additional expense and trouble ; while if the grain is threshed and garnered in a clean way, much advantage and profit is to be gained.

There is a very small amount of unhusked grain, chaff, and stalk to be found in the Indian wheat, arising from the defective and imperfect mode of threshing observed. To remedy this machinery must be used. But I

may add the amount of such matter now to be found in the wheat is of no consequence whatever, and if more care and trouble were bestowed while threshing, these would all but disappear.

The next point in para. 2, clause II, for report is, how to obtain finer grain. By the word fine I take to mean appreciated and prized in foreign markets.

The wheat of this district is very poor indeed, and has a low position in foreign markets ; the grain is very small, and the color always red (great drawbacks) ; but a mere handful of white wheat is grown, which is so small that it can be turned to no account. It is very inferior to the wheat of Muzaffernaggur, Meerut, Cawnpore, Jubbulpore, most parts of the North West, the Central Provinces, and the Punjab. I do not know the reasons of this inferiority ; probably the soil has something to do with it.

The people of this district, neither the traders nor the cultivators, have the faintest notion, up to date, of the particular qualities of wheat as appreciated by European merchants. Indeed, they do not even know the difference between the hard and the soft grain. They prefer the hardish (gritty) grain to the soft ; while the reverse is the case with European merchants, who are willing to pay at least five per cent more for the soft kind than the hard. I do not know why this difference in price is caused. The soft red grain is always whiter in color inside, is more easily grindable, and contains more starch than the hard red ; white the hard is more gritty, is of a light red color inside, and contains more gluten and less starch than the white. Perhaps for these properties the difference in price is caused ; but why these properties of the soft grain are appreciated by the European merchants, I am unable to state.

The grain of this district is chiefly hard and mixed, that is, hard and soft ; and also a fair proportion of the soft kind is grown. The cultivators care but very little which kind they sow ; whatever comes in their way is sown, regardless of the fact whether the grain is hard, mixed, or soft. I dare say in course of time, if there is any great demand for a particular kind of wheat, the cultivator will be induced to produce it. If a wheat trade with Europe were thoroughly established, then, no doubt, a change for the better would soon take place ; but as the export trade is likely to be knocked on the head, owing to the drought prevailing, it will take considerable time for the Punjab cultivator to effect any improvements in the quality of his wheat of his own accord. Time is a great object in all reform, and unless some forced action is taken by the Government in effecting agricultural reform, the Punjab peasant will certainly take his time to change the existing order of things. In what way Government should interfere, is not for me to suggest.

I certainly think a finer class of wheat, both in color and size, could be produced in this district. I have seen specimens of white and yellow wheat grown here which would fetch a very much higher price than the ordinary red sort, now so universally grown, in European markets. It will be very difficult, indeed, to get the cultivator here to change his seed, even were he in a position to do so ; he will certainly sow that which has always been prized by his own people as a rule, unless he gets thoroughly convinced a change will bring about increased profits. A foreign demand for the Punjab wheat cannot be depended upon, owing to the uncertainties of the climate of the province, so the cultivator will naturally produce that which is consumed by his own people. The wheat trade of this district is already at an

end, owing to the drought now prevailing ; and should beneficial rains not come within the next few days, it may not revive for two years at least.

The last point embraced in para 2, clause II, is how to get less-mixed grain for export. By the word less-mixed, I take to mean free from foreign grain admixture.

The wheat of the whole of the Punjab is seldom, if ever, found pure, the impurity varying very much in different localities, and in this district this foreign grain admixture, which is chiefly of barley, gram and mussar (pulse), varies from, usually, two to fifteen per cent., a large amount to be sure. To get rid of this foreign element, exporters in Bombay and Karachi use expensive cleaning machines, which are usually worked by machinery at great expense. Land, labour, and buildings are very costly in these cities, compared to what they are up here. It is needless to observe that the Punjab wheat, in consequence of this impurity, is very much handicapped in the trade ; and the loss occasioned thereby must in export times fall on the agricultural class. The Punjab cultivator, like all other people, would understand his own interests if he found that mixed wheat could not be sold with as much profit as pure. I think many have come to know this lately who have sold their wheat to export dealers. Up to date there has been no great inducement for the cultivator to produce pure wheat, as he has found the people of his own district consume that which is now produced by him; on the other hand, he has found the mixed grain pay better by giving a larger yield, sufficient to compensate him in the slightly reduced prices such wheat obtains compared to the pure sort. If a steady foreign demand existed for pure wheat only, I think in a few years the country would be able to produce pure wheat to a very great extent. The Punjab cultivator could very easily sow pure wheat ; he could clean the grain before sowing it ; and if he did not do so, it would not be from want of time.

But, as observed before, the Punjab peasant, if left alone, will take time to effect any reform, owing to the peculiar circumstances of his case. If speedy reform is required, compulsory measures on the part of Government are needed. In the East Indies, compulsory measures for agricultural reform were adopted towards the cultivators, by the Dutch government of the country, and were found to do much good, by enriching both the farmers and the Government. In what way Government should step in and induce the cultivators to sow pure wheat is not for me to suggest. If grain cleaning machines were placed in portions of every district, and the free use of these were allowed to the zamindars, much good might be done. But the undertaking would prove costly.

Now I come to para 4. The first point for consideration is, whether finer wheat can be grown in irrigated or unirrigated land ? I am certainly of opinion that on the irrigated land of this district generally, a finer grain, by which is meant a bolder grain, could be produced, than on unirrigated land. But in certain portions of the district where there is good moisture, there will be, as a rule, no perceptible difference between the wheat produced on the two kinds of land.

The chief reason why irrigated land can produce finer wheat as a rule than unirrigated land is, that the rain-fall is always either scanty, uncertain, or unevenly distributed; water is a great fertilizer, and if applied at the proper time to any crops must increase both the yield and size of the grain. The

second reason is, that the land attached to wells is usually more fertile (than unirrigated land), hence will produce, as a rule, a bolder grain.

I may add that there is no perceptible difference, as a rule, in the red wheat produced in this district on irrigated and unirrigated land. I have before observed that a finer grain, both in color and size, could with advantage be introduced. The climate and soil are both adapted for the growth of a finer wheat, as I have seen specimens of wheat grown in this district, much superior to the ordinary red sort now all but universally produced.

The second point in para 4 is, whether the grain is garnered and sent to market dirty by the cultivator or by the trader. I have observed on this above, and will only add that both commit the fraud, but usually the trader, as he is generally a thoroughly unscrupulous fellow, with but little notions of honest dealing, and well versed in committing frauds. In this district both the trader and the cultivator bring their wheat for sale to market.

The next point in para 4 is, whether the cultivator stores away his grain in a clean condition, and considers this to his advantage. I think he stores away his grain usually in the precise condition he finds it after it has been threshed ; and he finds doing this to his advantage. The cultivator is generally a simple honest fellow, and unaccustomed to cheating ; and the grain he retains is usually kept in reserve for feeding himself and his family, so, for these reasons, he usually garners his grain in a clean condition. But a few unscrupulous fellows mix inferior grain with good at the time of storing away. If a cultivator or trader has two or three different kinds of grain, he will put the good on the top and the bad in the middle and end ; he will also, occasionally, throw in some dust in the middle of the barn. I do not think much fraud is practised in this way, certainly not enough to cause any appreciable injury to trade.

Now as to para 6. I have no hesitation in saying that up to date no machinery has been used in cleaning the wheat that has been exported from the markets of this district. But when the wheat has been found to contain a large admixture of dust and gram, it has generally been cleaned by hand labour. Barley and other kinds of grain, usually found in wheat, cannot be removed by hand labour. When the export trade is more developed, cleaning machines will probably be introduced. Unless some European makes a beginning these machines may never be introduced by the native traders of the district ; and, if introduced, certainly not till the lapse of a few years.

I do not think any large export business in wheat has been done by any one in this place. The reason for this is, the trade is in its infancy, having only arisen the other day. A great many firms have consigned wheat to Karachi ; and whose names even I am not acquainted with. Since the middle of last month the export of wheat has practically ceased to exist. I am afraid the trade may not revive for at least two years should beneficial rains not fall during this and next month.

Now on to para 7, as to the varieties of wheat preferred for export. There is really but one variety of wheat available for export in this district, that is the red sort. The classifying of wheat has been never observed or known by either the cultivator or the trader into hard and soft ; so the red wheat usually found here has been exported indiscriminately. In fact, traders have no choice in the matter in the present state of the trade ; as they can

only export that which is available in large quantities. In the Bombay market wheat (both white and red) is always classified into hard and soft, as the trade of that city has been thoroughly established many years ago. In fact, the difference between the hard and the soft grain is very well known by the country dealers who export wheat to Bombay city. In buying wheat for export, traders of this place have always endeavoured to buy the grain as free from dirt and foreign grain admixture as possible. When such matter has been found to be excessive in any lot, traders have declined to buy such lot. Those who have purchased wheat having an excessive amount of foreign matter, have usually suffered losses in Karachi. I observed, after the recent harvest, select lots of wheat were usually brought into market, and only such lots were purchased by export merchants, thus showing that both the cultivator and trader came to know the kind required for foreign markets. The local traders of late have invariably refused to buy wheat having an excessive admixture of foreign matter, though such lots were offered at very low prices. It is, therefore, much to be regretted that the wheat trade of this district has came to such a sudden and untimely end.

Copy of letter No. 291, dated 29th September 1883.

From—W. H. PURSER, Esq., Settlement Officer, Jalandhar.

To—The Deputy Commissioner of Jalandhar.

I have the honor to reply to your No. 847, dated 11th July last.

2. From enquiries made it appears that the dirt found in wheat is not usually intentionally mixed with the grain, but is due to faulty garnering. The only remedy suggested is making generally known the advantages of a cleaner husbandry. The cultivators pay more attention to the clean state of the grain they keep for their own use than of that they sell. Different varieties of wheat are not sold together. The trader, who has little storage room as a rule, and gets grain from various persons, mixes the varieties. And as white wheat is dearer than red, the latter is sometimes mixed with the former with dishonest intent. So, too, are other grains, as barley and gram, and even dirt is sometimes mixed with the wheat to increase the weight by traders and cultivators, who bring their grain to large markets.

3. Wheat is rarely grown with barley, and then by poor persons who have to take mixed seed from the Sáhúkár and have not time to separate the grains, or who live from hand to mouth, and use the barley parched or made into cakes, while the wheat is ripening, as barley matures before wheat. Gram and wheat are commonly grown together, but only on unirrigated soils, and those generally not first class. The object is to provide against a total failure of the crop. If there is much rain, the wheat yields well; if little, the gram gives some return; if the rain is fair, both crops are good. I send a statement showing the areas under—

Wheat,
Wheat and gram mixed,
Wheat and barley mixed,

as recorded at settlement measurements. The area under the first crop is probably exaggerated at the expense of the second, as it is the regular custom to record the latter as wheat alone, or to divide the area among wheat and gram.

4. Weevil is generally attributed to the grain getting over-heated when in store through want of ventilation, especially if the wheat has been damp when stored.

Tahsil.	Chahi.			Sailab.			Barani.			Total.		
	Wheat.	Wheat and Gram.	Wheat and Barley.	Wheat.	Wheat and Gram.	Wheat and Barley.	Wheat.	Wheat and Gram.	Wheat and Barley.	Wheat.	Wheat and Gram.	Wheat and Barley.
Nawashahr ...	23,895	5,695	308	4,871	62	18	12,850	12,103	305	41,616	17,860	631
Phillour... ...	24,030	2,025	34	4,938	29	...	8,421	24,679	73	37,389	26,733	107
Nakodar... ...	31,588	582	37	6,422	13	1	29,441	33,044	57	67,451	33,639	95
Jalandhar ...	23,215	360	25	...	...	...	68,372	16,438	110	91,587	16,798	135
Total ...	102,728	8,662	404	16,231	104	19	119,084	86,264	545	238,043	95,030	968

HOSHIARPUR DISTRICT.

Copy of Note by Captain MONTGOMERY, Settlement Officer, Hoshiárpur.

1. The accompanying statement shows that six kinds of wheat are grown in the Hoshiárpur district, by far the commonest kind being the red wheat called "Kathi." Apparently this kind is the hardiest and best adapted for the soils of the district, and the people say its out-turn per acre is also generally more than that of other kinds. It is frequently sown mixed with other crops, more especially gram, and the area shown in the statement as under this kind of wheat includes all mixtures, which probably amount to half the total area given. One reason why mixtures are so common is the popular belief that the total out-turn is thus generally more, and that a year that is favorable to wheat may not be favorable to gram and *vice versa*, so that one crop is pretty sure of coming to maturity. Another reason is that wheat and gram mixed is the common food of the cultivator, who with his hard work in the fields requires strong food, and is able not only to digest the mixture, but is sated with a smaller quantity of it than of wheat alone. The other red wheat is "Dhamuri," which is coming into fashion for sowing in "chhal," that is, land which has received a fertile sandy deposit. The high winds which often blow in March are apt to lay most wheats in such soil, but the "Dhamuri" having a firmer root and stalk is not so easily stirred.

2. The white wheats are the "Daud-khani," "Badanak," and "Kankú" or "Mundri." The first is the best and always fetches a good price, but little is cultivated in this district, a few villages only at the foot of the Siwalik range in the Dasuya tahsil being celebrated for it. It is said that Máhárájá Ránjít Singh used to get his wheat from here. The Badanak has a very long beard, and is generally sown only in irrigated soils. It has a coarse stalk, and its bhusá is not good. The original Kanku is a beardless white wheat, and it appears to grow best in the Kandi villages along the Siwáliks. When found further from the hills it is of a reddish colour, and it has thus been classed separately. It is not usually cultivated in the river-side villages, where wild pigs abound, as they are supposed to be particularly fond of this wheat which has no beard to stick in their throats.

3. This cannot be called a wheat-exporting district, as nearly the whole out-turn is required for home consumption. The ordinary cultivator does not take much trouble about choosing his seed ; it is not unusual to find 2 or 3 kinds of wheat in one field ; and these mixtures of different species are perpetuated by the plan of threshing all the wheat of a holding at the same threshing-floor. There may be a very few careful farmers who are particular to pick out good ears of wheat of one kind and thresh them separately, but they are quite the exception ; and when a cultivator has to get his seed from his money-lender, it is generally very mixed and poor in quality. Again, when it is considered that the threshing is done in the open field on a piece of ground merely swept clean, it is no wonder that a good deal of dirt gets mixed with the grain by the time it is carried to the granary. No special cleaning is done by the farmer, and whatever cleaning is necessary before exportation must be done by the trader. In the best lands wheat alone is cultivated, and sometimes only one kind of wheat is found in such lands ; the mixtures of wheat with other crops are generally found in other than the very best lands, but not invariably, and mixtures of different kinds of wheat are common in all soils.

4. I have already stated that very little wheat is exported from this district, and I am therefore unable to give the information required about the principal grain-dealers and their past transactions. I believe that the Kanku, both white and reddish-white, is the kind most generally sought after by traders for export, and it appears that the cultivation of this kind of wheat has increased of late.

AMRITSAR DISTRICT.

Copy of Memorandum by E. NICHOLL, Esq., Secretary Municipal Committee, Amritsar.

* * * * * *

3. It is obviously difficult to ascertain with certainty who is responsible for the dirty state of the grain. If the cultivator takes the precaution to plaster the surface of threshing-floor, or to water and level the surface, the admixture of dirt is insignificant; where, however, this precaution is not taken, there will be a large proportion of dirt. The real remedy for removing the dirt is by more careful winnowing by means of the *chaj*; this is no doubt neglected on the score of expense. I think, however, the trader is as much to blame for the presence of dirt as the cultivator, both have an interest in disposing of as much as they can without the danger of injuring their custom. From the comparitive simplicity of the agriculturist, however, he is heavily handicapped when dealing with a sharp city trader. It is therefore reasonable to infer that the cultivator does not add dirt to the grain with the object of perpetrating a fraud; whatever dirt is in his grain has got there from his own want of care in garnering it. The publication of the broadsheet suggested by Government was much approved of by the meeting. The deposit of samples at Tahsils would, it was thought, be a useful guide to the cultivators.

4. The matter is one that will in a short time right itself. Traders at Karachi have to pay large sums for cleaning grain and for the freight of the dirt in it; the remedy is in their own hands, and they will before long adopt it generally, that is, to clean the grain in the market where it is purchased. Already the firm of Ralli Brothers has started a purchasing agency here, and they have set up machinery for cleaning the grain. The agent is careful to purchase the cleanest grain in the market, and it is to the interest of the trader and cultivator to produce the grain in as clean a state as they can. The quantity of dust and dirt is sometimes as much as 25 to 30%. In Bombay the allowance for mixture is 6% and in Europe 2%.

5. It is not possible to state to what extent cultivators store grain. It was mentioned by some people present at the meeting, that the village *shah* in payment of his debts insists upon receiving good and clean grain, but when seed time comes round he imposes on the cultivator mixed grain with a very large proportion of dirt.

6. The habit of sowing wheat mixed with other crops, particularly gram, prevails to a large extent on lands which are dependent on rain-fall, and the motive for it is "protection against the total failure of the produce."

It is a common practice to sow mixed varieties of wheat, and for the reason that pure white wheat is not favored by the people as an article of diet, and it has the reputation of deteriorating from the attacks of weevils.

The mixing of the varieties occurs both in the field and in the grain stores. The difficulty of separating one from the other is so great, that no attempt to do this on a large scale has been made. The pure white wheat that is grown is intended for foreign markets.

7. As stated above, the firm of Ralli Brothers of Calcutta, Bombay, and Karachi have established an agency here under European supervision within the last few months, for the purchase, cleaning and despatch of grain to Europe *via* Karachi. The opening of a branch by another European firm is, I believe, contemplated.

8. The following figures represent the quantity of grain imported by the city of Amritsar during each of the past 3 years :—

	Maunds.
1880-81	1,622,202
1881-82	993,144
1882-83	1,945,168

In this year the wheat imports alone exceeded 10 lacs of maunds, and exports 5 lacs.

The kinds of wheat most preferred for export are those mentioned in para 21 of Punjab Government Notification No. 10, dated 6th January 1883. The demand is sometimes for one kind and sometimes for another : in this respect the foreign markets are very fickle. On Monday morning orders are received to buy soft white, and on Tuesday soft red, and so on.

9. The question of establishing a central grain market at Amritsar has been under consideration for some time. In 1881 the matter was discussed by the Municipal Committee, but the estimate was not sanctioned. In February of the current year the matter was taken up by the Hindu Subha, an influential local society. The Subha agreed to build the market provided the Government granted the land free of cost, and allowed the Subha to appropriate all income. Half the amount required was in a short time raised by subscriptions. The free grant of the land was not supported by the local authorities, and so the matter has again hung fire. The opportunity of so many grain dealers and others interested in the matter being assembled was taken to obtain their views on the subject. The unanimous opinion was that both in the interests of the agriculturist and the city dealers, a central market was a great necessity. All the grain being collected in one place, a healthy competition would be created. Ignorant cultivators bringing their grain to market would no longer be the prey of petty *daláls* or brokers, and *dharwáis*, weighmen.

10. To show the importance of having a central grain market, I will quote the opinion of Mr. Hawkins (Deputy Commissioner), extracted from para 4 of a letter No. 102, dated 12th March 1883, addressed to the Commissioner :—

"The advantages to the city of the provision of such a market would no "doubt be great. * * * I am myself very strongly in favor of the project as "the most probable means of securing commercial prosperity to Amritsar "* * * I should look for future prosperity to Amritsar in the large export "of grain rather than to its manufactures. For this purpose I believe it to "be of the highest importance to provide all possible conveniences to suit an "emporium of grain.

"The export trade is already large : it will probably be increased when "the new Pathankote railway is open ; and the example of Cawnpore and the "success which has attended the establishment of a grain market there, are "sufficient to show how much can be done by arranging for the convenience "of an export trade.

GURDASPUR DISTRICT.

Extract of a letter No. 521, dated 7th August 1883.

From—Lieut.-Colonel ALFRED HARCOURT, Deputy Commissioner,

To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * *

2. I called a meeting of the chief grain-merchants of the District, and laid before them translation of your Circular and of the Punjab Government Notification No. 10 of 6th January 1883, and first enquired how in their opinion cleaner, finer, and less mixed grain could be secured for the export trade. To this question I failed to receive any satisfactory reply, and it was plainly evident that those concerned in the export trade had never hitherto much troubled themselves about this matter. They learnt with some surprise how the grain trade had increased in value and importance, but they hardly seemed to see the necessity for their taking action with regard to securing cleaner and less mixed grain.

3. And here the circumstances of the District have to be borne in mind. The people, that is the agriculturists, are heavily involved. From enquiries I made when reporting on sugarcane cultivation, it seems that ¾ of the zamindars are deep in the Banniah's books, and from what has been ascertained during the investigation into the license-tax objections, it is clear to me from the vast number of bonds the objectors produced, that the agricultural classes are in very embarrassed circumstances. The result is, the majority of them live from hand to mouth, and as long as they can tide over the evils of the present they think little of the future. This being so, they are careless in their field operations, and knowing the Bunniah will take their grain as they choose to give it him, that is, as he has always received it, with a certain proportion of dirt and inferior grain mixed with the good grain, he cares little for all these schemes for improving the trade. Unquestionably, in this district at any rate, it is the agriculturist who garners the grain in a dirty state, but doubtless in some instances the adulteration takes place after the grain has reached the exporter's (I mean the district exporter's) hands.

4. In my opinion it is useless to hope that the agriculturist will be more careful. When he has gathered his grain, he leaves it in the open, for such a custom as the placing it under a covered shed is unknown, and lying exposed, as it does, it is defiled by the droppings of birds and by the storms of dust that blow over the plains in the hot season. What the agriculturist keeps, and what the Bunniah keeps when he has received his dues, is, if not sent off at once, which is seldom the case, put into *khatas* in the earth on a sort of ensilage system. At first the grain is good enough, but, either from the imperfection of the soil or from damp getting in a certain part of the store, becomes affected.

This, however, is so far remedied that the bad grain is mixed with the good, and, at any rate for a time, this adulteration escapes detection. Such adulterations do not, I think, take place with the grain intended for immediate export. Such as the grain is then, it is sent away, but what remains, if subsequently required for export and this has become damaged, is mixed up with the good grain and so disposed of.

5. In this district there are no large grain markets into which cereals are daily imported, and from which they are daily exported. The Sahukars take delivery of what is due to them from the agriculturist, and as I said before, what they can't export at once, they bury in the earth. Our chief markets are at Batála, Dinanagger, Pathankot, and Srigobindpur.

6. As to the habit of sowing wheat mixed with other crops, I gather that this is never the custom in canal-watered lands. In Barani lands this practice is very generally adopted, in the hope that if the wheat crop fail the other crop may succeed. In so far as I can learn after a good deal of enquiry, I find mixed varieties of wheat are never sown, so that if this mixing occurs, it must take place subsequently, either by the cultivator or the grain merchant.

7. No arrangements of any sort or kind have been introduced in the district by the grain dealers with the object of cleaning the grain before its despatch for export. Nor have any agencies for the despatch of grain in large quantities been established in this district. I particularly urged on the meeting the advisability of these agencies being established, and those present appeared to understand how advisable it would be to arrange for such.

8. I append herewith a brief account of the principal grain marts of the district, with their tranactions for the past 3 years, but the information I have obtained is not absolutely reliable, and probably the amounts given are much understated. They are so for the reason that if it were known that particular persons acknowledged to large exports, these persons would fear their license-tax assessments would be increased, and the dread of this keeps back much information.

9. Batala is the largest and most important town in the district. Its wheat exports within the last 3 years are said to be as below :—

To Karachi 37,000 maunds,
To Amritsar 10,000 maunds,
To Shahpur district 5,000 maunds.

The exporters to Karachi were Sundi Roda, Duni Chund, Dala, Gurditta and Moula ; to Amritsar were Kishen, Lallu Mall, Hira Nand, Pheru Mal, and Kundan ; and those to Shahpur district were two men of the name of Kali Ram.

10. In Dinanaggar there are no actual grain dealers, but the people from the hills come down and invest in the grain brought in from without. Pardewe Singh, agent to Thakur Singh and Kashmira Singh at Sahowal, is said to have exported 12,000 maunds within the last 3 years, and it is further reported that one Sunt Ram sent 2,000 maunds of wheat within the same period to Shahpur district.

11. The Sahukárs of Pathankot do not send out their wheat, but I am informed that Pardewe Singh took away 2,500 maunds of wheat to Amritsar

3 years ago. The wheat coming into this town is of excellent quality, and I fancy it is almost entirely consumed in the home market.

12. The Srigobindpur Sahukárs keep very large stores of wheat by them and have the reputation of refusing to sell till prices rise. Bhag Mall and Mathra Dass are reported to have sent wheat by river to Karachi. But I learn the traders here entertain a prejudice against sending their wheat to England. Within the last 3 years it is stated 100,000 maunds of wheat have been despatched from Srigobindpur and its neighburing villages to Amritsar and Karachi.

13. I see little prospect of the wheat trade progressing satisfactorily under the present system. The zamindar who cultivates is not sufficiently interested in the matter to do what is necessary towards keeping his stock clean and free from inferior grains, and the Sahukar, satisfied with the large profits he as it is realizes, and wedded besides to an old and vicious groove, will take no trouble to secure the despatch of sweet pure grain to the port of export. We can, I am sure, expect nothing from the cultivator, who will always go on very much as he does now. The only remedy is for large and wealthy firms to take up the export trade and have their agencies at the great wheat-growing centres where sheds could be erected, and appliances for cleaning the grain could be at hand. Then much might be effected. There is room for a handsome profit even after such expenditure has been incurred, in order to secure the elimination of all dirt and inferior grains from the collected supplies. And I think that if it were possible to secure the interest of large and respectable firms in the export trade of the wheat-growing districts, the humbler merchants and traders would in time understand that they must be driven completely out of the market, did they not more carefully consider the requirements of the District.

SIALKOT DISTRICT.

Memo. dated 9th August 1883, by Major J. B. HUTCHINSON, B.S.C., Offg. Dy. Commissioner.

* * * * * *

2. The finer sorts of wheat are cultivated in good land irrigated from wells. About 4 copious waterings, besides the usual amount of rain, are considered sufficient for the production of a good crop.

Does the cultivator garner the grain in a dirty state?

After the crop is cut, it is tied up into sheaves and left on the ground until the threshing floor is ready. In some cases the threshing-floor is prepared on hard uncultivated land carefully cleared of all loose mud, dirt, &c. The grain threshed on such ground contains but little grit or dust. As a general rule, however, a portion of the field, from which the crop has just been taken, is levelled, cleaned, and made up into a threshing floor. The grain threshed in such places is necessarily dirty, containing small pebbles, grit, bits of mud, and dust, which get mixed up by the treading of the cattle and men employed in threshing the corn on the loose and friable soil of which the threshing-floor is made up ; much of the dust is got rid of in separating the (bhúsa) chaff from the grain, but the pebbles &c. remain.

Besides this, the seed of wild grasses and weeds, which are spontaneously produced in the wheat field, are often found mixed up with wheat. The wild grains are locally known as "Bhúgát," "Piázi," "Janná," and "Harwárí." The cultivator picks out these wild plants, but does not weed them out altogether: many of them come to maturity, are cut, and threshed out with the wheat. To this extent, therefore, the wheat is garnered in a dirty state by the producer.

3. Dirt is not mixed by the cultivator before it goes into the market. It is then dirty only to the extent noted above. No particular trouble is taken by the cultivator to clean the grain after threshing.

Does the cultivator mix dirt with the grain taken to the market?

4. It is pretty generally known that grain is dirtied after it passes into the hands of the Sahukár or grain dealer, who stores it in *kacha* houses, where more mud, dust, and other foreign matter get mixed up with the grain. Some grain dealers, it is asserted, actually adulterate wheat by adding mud, grit &c. to increase the weight. It is also well known that the Sahukár, or village banker, generally takes possession of the grain as soon as it is threshed. The cultivator seldom markets his own grain, or can afford to clean it and store it.

Is the grain dirtied by the dealer?

5. The Sahukár takes no particular care to store the different kinds of wheat separately, or in a clean state. All the grain which he becomes possessed of by purchase, or in payment of his debts, from the cultivator, generally in small quantities, is thrown indiscriminately into his store-room. Sometimes from want of space, or other reasons, he does not even hesitate to mix wheat and barley. From the time he stores up the grain till he removes it for sale, he never attempts to air it, or clean it.

Careless manner of storing grain.

6. Export traders do not purchase from the producer, but from the Sahukár or other dealers in grain, who keep grain stores.

Export dealers.

7. The remedies against the admixture of wheat with other grains and dirt rest, in the first instance, with the cultivator, and are as follows :—

Remedies in the hands of cultivators.

1. The seed should be carefully picked and cleaned for sowing.

2. All wild grains, grasses &c., should be carefully picked and weeded out of the field.

3. The threshing-floor should be made on properly consolidated, hard, clean ground, and never on loose or ploughed land.

4. After the chaff is blown out, all pebbles, mud &c, should be carefully picked out.

5. The cultivator should be advised to clean the grain with the greatest care, and the benefit he would thereby derive should be clearly pointed out to him. This might be easily done with the help of Zaildars and Lambardars. At present the cultivator is somewhat indifferent, he does not consider it worth his while to bestow more than the ordinary amount of labor, or to take any special means to clean his grain, seeing that the Sahukár who buys his grains (for he is seldom able to market his produce himself) is not particular on this point, and does not remunerate him for any extra labor

or expense he may incur in cleaning the grain. When the grain is threshed out, a uniform rate is fixed, and, cleaned or uncleaned, the crop is purchased up at one fixed rate. The Sahukár collects clean and dirty grain all in the same store.

Remedies which the Sahukár should take.

8. The remedies which the grain dealer should adopt are :—

1. Greater care in storing grain in a clean state.

2. To store the different kinds of wheat separately and not to allow wheat to be mixed with other grains, such as gram or barley.

3. The wheat store should be thoroughly aired, the grain cleaned once or twice a year,—at least once, after the rains, to prevent damage from mildew, weevils &c. ; the house should be carefully cleaned out before the grain is replaced in it. The oftener the grain store is aired, the better.

Practice of sowing mixed grain.

9. The practice of sowing mixed grain is generally resorted to in inferior and unirrigated land, to guard against total failure and to secure a better yield, especially after the sowing season for wheat has passed. It is estimated that about $\frac{1}{10}$th of the wheat produced is from mixed grain. Two or three kinds of grain are mixed with wheat. When two or three kinds of wheat are mixed and sown, the produce is known as "Gádar." The produce of wheat and barley mixed is termed "Goji" ; of wheat, gram and barley, "Berera." These mixed grains are sold cheap, but they are chiefly cultivated for home consumption. In good safe land mixed grains are not sown except in rare instances, when it is too late to sow wheat by itself. It is not a common practice for the cultivator to mix grain of different sorts for sowing. It happens when a cultivator has no seed of his own and is obliged to resort to the grain dealer, that he gets mixed grains from the store and sows it in that state.

Nothing has been done by the grain-dealers to clean grain for export.

10. No special arrangements have yet been made by grain dealers in this District in view to cleaning the grain for export. Grain for export is, however, cleaned to a certain extent, by the removal of insects &c. before exportation. It is, I think, hopeless to expect much improvement in the cleaning of the wheat exported until the exporters themselves have learnt, by experience, the advantages of exporting only such wheat as has been thoroughly cleaned and sorted. This they will soon do. They will then look to the dealers to supply clean wheat, who in their turn will look to the cultivator. Ultimately the work will fall on the cultivator, who will find out that dealers will not purchase any but the cleanest grain. Advice can and will be given by the district officials during their cold weather tours to all Zaildars and Lambardars, but such advice will never be listened to until the exporters move in the matter.

New agencies for export.

11. An agency for the export of wheat to Sakkar and Karrachi has recently been established at Pasrúr by one Ditta Shah, a Bhábra. The transactions of this agency are not as yet very extensive.

Grain marts.

12. The principal mart for wheat in the District is the town of Sialkot, where it is known as the "Kanak-mandi." Most of the wheat produced in the District is collected

here for disposal. There are smaller marts, of which a list is given in the margin,* where between three and four thousand maunds of wheat change hands annually.

* Killa Sobha Singh, Pasrur, Zafarwal, Daska, Wadalla, Jamki, Mitranwali, Kandan Sean, Ghartal, Gojra, Samrial, Bhopalwala, Begowala, Sahowala, Sindhawalla, Mundeke, Lodeh, Bambawala, Mandranwalla, Dhamoke.

13. The demand for export to Europe seems to be for the varieties of wheat known as "Dágar Wadának" and the "Nikki lál," and to a very small extent for "Kúnj Wadának."

Varieties in demand for export to Europe.

14. Large quantities of wheat are exported from the District to Gujranwala, Lahore, Rawalpindi and Jammu. Probably much of the grain sent to Gujranwala and Lahore ultimately finds its way to the export towns for shipment to Europe.

Exports to other places.

15. It is difficult to form an estimate of the wheat transactions of the past years, and traders are very backward to supply information on this point.

Wheat transactions of past years.

16. A list of the principal grain dealers in the District is attached.

List of grain dealers.

List of grain-dealers in the Sialkot district.

No.	Town or village.	Name of Dealers.	No.	Town or village.	Name of Dealers.
1	Sialkot ...	Gopal Singh.	67	Ghurthul ...	Melaram.
2	Ditto ...	Kurm Dad.	68	Ditto ...	Jotiram.
3	Ditto ...	Sher Alli.	69	Gojray	Sunder Das.
4	Ditto ...	Gobind.	70	Sumrial ...	Ruldu Shah.
5	Ditto ...	Nuthu and Mutsuddi.	71	Ditto ...	Monah Shah.
6	Ditto ...	Kirpa Ram.	72	Ditto ...	Jumyut Rai.
7	Ditto ...	Ram Narain.	73	Bhupalwala ...	Gopal Shah.
8	Ditto ...	Ghasita.	74	Ditto ...	Zulfkar.
9	Ditto ...	Deva Singh.	75	Bagowala ...	Hukum Singh.
10	Ditto ...	Jewan Lal.	76	Ditto ...	Narain Das.
11	Ditto ...	Moti and Hera.	77	Shahowala ...	Shunkur Das.
12	Ditto ...	Baggu Shah.	78	Ditto ...	Shamah Shah.
13	Ditto ...	Shama.	79	Mundakay ...	Jewun.
14	Ditto ...	Gunda.	80	Ditto ...	Mya Das.
15	Ditto ...	Nekkah.	81	Loday	Kurm Chund.
16	Racharrah ...	Luchman Shah.	82	Bombawala ...	Mulah Shah.
17	Ditto ...	Gurditta Shah.	83	Ditto ...	Deviditta.
18	Bugray ...	Jowalah.	84	Mundrawala ...	Dit Shah.
19	Perachak ...	Wadawa Singh.	85	Ditto ...	Gungaram.
20	Ditto ...	Mulah.	86	Lurki	Hakim Shah.
21	Ditto ...	Gurmuk Singh.	87	Ditto ...	Heerah.
22	Mirza	Sham Singh.	88	Dhamokay ...	Jowahir Shah.
23	Ditto ...	Ram Singh.	89	Mundealah ...	Dula Shah.
24	Ditto ...	Moolah.	90	Kotli Nawab Sadulla Khan,	Devidyal.
25	Partabwali ...	Saiditta.	91	Senewala ...	Jhunda.
26	Luddur ...	Persuddum Das.	92	Sarankay ...	Kurm Chund,
27	Bhekekay ...	Nehal Singh.	93	Ditto ...	Kirparam.
28	Chaunú Múm ...	Gunda Singh.	94	Pasrur	Ditta Shah.
29	Chak Gilla ...	Jowahir Singh.	95	Judhala ...	Mulah Shah.
30	Targah ...	Hera Shah.	96	Kajibharung ...	Ludhu Shah.
31	Ditto ...	Butah.	97	Chur Munda ...	Lukha Shah.
32	Kotli Amir Ali...	Nehal Singh.	98	Seranwali ...	Dula Singh.
33	Roras	Rurah Shah.	99	Ditto ...	Kalu Shah.
34	Ditto	Deviditta.	100	Ditto ...	Gunesh Das.
35	Raipur	Motiram.	101	Ditto ...	Bhola Singh.
36	Bugwal ...	Nuthu Shah.	102	Suttra	Eshur Das.
37	Ditto ...	Gungaram.	103	Ditto ...	Nehalla Shah.
38	Ditto ...	Sukram Shah.	104	Nouar	Monah Shah.
39	Goudpur ...	Ghukku Shah.	105	Cheawali ...	Ghasita.
40	Chitti Sheikhan,	Ami Chund.	106	Ferozka ...	Baisakha Singh
41	Kallah... ...	Thakur.	107	Judhealla ...	Kanah Shah.
42	Kahpur ...	Gungu Shah.	108	Musahpur ...	Nehalla Shah.
43	Nuzwal ...	Arura Shah.	109	Chur munda ...	Meah Shah.
44	Ditto ...	Madho Shah.	110	Sunkhutra ...	Gopi Nath.
45	Ahdah	Hakim Shah.	111	Ditto ...	Ananta Shah.
46	Kot Daska ...	Sudda Shah.	112	Ditto ...	Gokul.
47	Ditto ...	Tarah Shah.	113	Bul	Wadawa Shah,
48	Ditto ...	Chambah Shah.	114	Ditto ...	Santa Shah.
49	Ditto ...	Essur Singh.	115	Mullowala ...	Jhunda Singh.
50	Ditto ...	Myah Shah.	116	Mehal Jund ...	Gopi Shah.
51	Ditto ...	Burah Shah.	117	Bhurtal ...	Shaho Shah.
52	Ditto ...	Joydyal.	118	Sunkhuttra ...	Tarah Shah.
53	Daska Khas ...	Monah Shah.	119	Jundiala Kulsa,	Mustak and Nehalla.
54	Ditto ...	Chund.	120	Ditto ...	Wadawa.
55	Wudalla ...	Ruldu Shah.	121	Ditto ...	Lehna and Gunesha.
56	Ditto ...	Jumyut Roy.	122	Burayuthe ...	Deviditta and Jowala Shah.
57	Jaunkey ...	Mahasha Shah.	123	Mulukpur ...	Bhanah Mull.
58	Ditto ...	Dulo Shah.	124	Meani	Bagah Shah.
59	Ditto ...	Gunda Shah.	125	Narowal ...	Gulamzafur.
60	Ditto ...	Nanuk Chund.	126	Ditto ...	Enayut Ali.
61	Mitranwali ...	Lukhu Shah.	127	Ditto ...	Gulam Sadik.
62	Ditto ...	Attur Chund.	128	Ditto ...	Murad Ali.
63	Ditto ...	Bur Singh.	129	Jussur	Billa Shah.
64	Kundunsean ...	Atma Singh.			
65	Ditto ...	Jewun Shah.			
66	Ghurthul ...	Thakur Shah.			

LAHORE DISTRICT.

Extract of a letter No. 2205, dated 22nd August 1883.
From—W. O. CLARK, Esquire, Deputy Commissioner, Lahore,
To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * * * * * *

The grain merchants I have consulted have told me that three kinds of wheat are exported from this district, and known in the English market as—

1. White, soft ... = Ghoni Daudkhani.
2. Red, soft ... = Lal.
3. Red and white, hard = Badanak.

The white soft is the most valuable.

2. In reference to para. 4, I am assured that no dirt is added intentionally by either cultivator or trader. The harvesting floor is of mud, and as the grain is trodden out by cattle, dirt naturally gets into the grain. Winnowing is done with the common *chhaj*, and this is not good for getting rid of dirt, which is heavy, and is dependent upon the strength of the wind. Barley cannot be separated from wheat by any process. I think we may look to the large dealers for cleaning their grain. The firm of Dina Nath-Sheo Pershad in Lahore have some six winnowing machines, some procured from England at a cost of £50 (in England), and some from Karrachi (made there) at a cost of Rs. 130 delivered in Lahore. Sheo Pershad says that the £50 machine will, if worked continuously, clean 1,500 maunds in 24 hours, employing 12 men to work it, and that the refuse varies from 2 to 3 per cent. I think it is hopeless to expect the cultivators to clean their grain sufficiently for export, and that this division of the work falls properly to the trader.

3. In reference to para. 5, the habit of sowing wheat mixed with other grains prevails only to a small extent. It is common on poor unirrigated land, the object being, if rain fails for wheat, to have a chance of getting the other crop. Not much care is taken in the prevention of mixing of different varieties of wheat ; it is done by the traders. It will be discussed in another paragraph.

4. In reference to paras. 6 and 7, the large grain dealers are procuring winnowing machines from England and Karrachi. The largest grain dealers in Lahore, Nandu Mall-Nehal Chand, and Dina Nath-Sheo Pershad, have agents in England, and despatch grain according to telegraphic orders from England. One Barkat Ram is said to do a large business in Lahore : he gets advances from Karrachi to carry on the business. Agents from Shikarpur and Scind generally go about the district and into the villages and make purchases. Two agencies have been established in Kasúr.

5. On a consideration of the whole question, the chief flaw in the grain business seems to me to rest with the small grain dealers, in the fact that they very generally mix up all the grain they get from their different cultivators and then strike one rate for all the grain, paying the same rate to all the cultivators irrespective of the quality, kind, or cleanliness of the wheat. The following is reported to be the common practice : The dealers collect all their grain in one common granary up to a certain date (the 26th "Jeth," known as "Nimani Ikadashi"), and then they fix a general rate. When cultivators get

the same rate irrespective of quality, kind and dirt, they cannot be expected to take trouble in regard te these matters. It is easy to point out a flaw, but to devise a successful remedy is difficult. Instructions pointing out the advantages (1) of keeping the different varieties of wheat separate ; (2) of paying each cultivator according to the nature of his wheat ; (3) the importance of using clean unmixed seed (the grain-dealer gives generally back the same mixed wheat for seed) might be of use. Probably more could be done by attention to the seed than in any other way.

6. I asked Mr. Pavy, who is engaged in the grain trade at Lahore, to give me the benefit of his experience, and he has kindly given me a short memo. in answer to the circular, which I append in original. He says mixing the kinds of wheat is done to secure a better general rate. If a trader gets a bigger gross price by mixing the good and bad things than by selling them separately, nothing will prevent him from doing so. This question will probably settle itself by the laws of political economy. It is a question of the prices of the different kinds of wheat, and these will vary amongst themselves according to the demand for each kind.

Copy of a letter, dated 23rd July 1883.

From—M. E. Pavy, Esquire,

To—The Deputy Commissioner, Lahore.

With reference to yours of 19th inst. I give you below what little information I can. The practice of mixing is carried on to a great extent both by "banias" and cultivators. For example, in a district like Changa Manga, where nearly all the wheat grown is soft white, if a cultivator happens to have, say, 200 maunds of soft red wheat, he agrees with another cultivator, who has 2000 maunds of soft white wheat, to mix the two, so as to get a better price for his small quantity, and "banias" having a stock of good wheat in hand, for which there is a great demand, buy inferior quality to mix and so increase the quantity, and get a good average price for it.

The mode of threshing is also very detrimental to corn, as the grain gets trodden into the ground, and bruised by the feet of the bullocks, and when swept up there is, of course, a large mixture of earth.

In districts where there is sufficient irrigation, either from canals, or a good well, and where the soil is also favourable, rapeseed and corn are invariably cultivated together, as the rapeseed ripens first and is cut before the wheat is fully grown.

The present system of cleaning is either by hand, or a winnowing machine.

I have endeavoured to answer the questions put in the enclosed Circular as far as possible. I fear, however, you will find some difficulty in obtaining much information from European or even native exporters with regard to the best markets and the best mode of preparing for export, as it would hardly be to their interests to let it be known where and how they obtain and clean their consignments, as, of course, there is a good deal of competition.

GUJRANWALA DISTRICT.

Extract of a letter No. 324, dated 24th July 1883.

From—R. W. TRAFFORD, Esquire, Deputy Commissioner of Gujranwála,

To—The Commissioner and Superintendent, Lahore Division.

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2. Agriculturists should be induced to sow cleaner, finer, and unmixed grain seeds, the threshing-floor should be carefully prepared, and wheat of each kind should be separately threshed, cleaned, and stocked. After this the firms of merchants storing wheat should be induced to store wheat of each kind in separate granaries; the grain should be aired and cleaned after the rains in the month of September always.

Reply to para 2, question I.

3. The suggestions that samples of the different classes of wheat recognized by the English trade should be made available for inspection in each tahsil and at each principal mart, and the distribution of a broadsheet to all zamindars urging the cultivation of better wheat and its better preparation and preservation for the market, are good, and likely to improve the cultivation of wheat.

Reply to para 2, questions II and III.

* * * * * *

5. With reference to para 4, I beg to report that the finer kinds of wheat can only be cultivated on land irrigated by wells. It has been ascertained that the cultivators garner their grain in a dirty state, but they do not add dirt when the grain is sent to market.

The remedies suggested in para 2, if carried out, primarily will improve the wheat garnered for export. At present both the cultivators and the traders are indifferent to the proper cleaning of the grain. In this district no cultivator is reported to store his grain. Cultivators as a rule make over their produce to the shopkeepers.

6. In regard to para 6, it has been ascertained that barley or gram are generally sown mixed with wheat, but not to any great extent in this district. Mixed wheat with other crops are sown for the consumption of poor people, and for payment of wages in kind to servants, as also for home consumption. It is generally resorted to on Barani land or inferior surplus irrigated land, or sown as a second crop. It is not common to sow mixed different varieties of wheat in this district, but shopkeepers sometimes sell mixed wheat from their grain-stores for sowing purposes.

7. Grain dealers have not up to the present time introduced any arrangements with the object of cleaning grain before its despatch for export.

Grain-merchants clean their own wheat at Gujranwala by machinery before despatch to Karachi. No agencies have been established in this district for export of wheat direct to Europe.

8. No correct account of the wheat transactions for the past three years is known beyond this, that wheat was formerly exported principally towards Peshawar for Cabul, but this year about eleven lacs of rupees worth of wheat is said to have been exported to Karachi.

The wheat exported were of the varieties known as Wadanak and Nikki or Lal, shown as Nos. 1 and 2 in the descriptive list for this district.

RAWALPINDI DISTRICT.

Memo on the condition and quality of wheat available for export in the Rawalpindi District, by E. B. STEEDMAN, Esq., Settlement Officer Rawalpindi.

Export merchants.

1. There are in this district very few grain merchants who do export business on a large scale. The wheat produced in this district is mostly consumed in the district, a large quantity being required to supply the Rawalpindi cantonment and city and the Murree hill station. In fact it is probable that in most years wheat has to be imported.

2. To secure a supply of wheat in clean condition suitable for export to Europe, the following measures might be adopted. Prizes should be given by the District Committee to large landowners for cleaning their grain, and the Tahsildars and members of the Committee should urge the zemindars of the district to keep their grain as clean and unmixed as possible and to explain the advantages of such treatment. Prizes might be given at the time of the horse-fair, for the best samples of wheat, care being taken to ascertain that they fairly represent the grain held by the exhibitor.

By whom is the dirt mixed with the grain.

3. Both zemindars and grain-dealers mix dirt with their grain, and the addition is made to increase the weight and bulk, and thereby to secure a higher price. At present zemindars do not understand that to keep their grain clean can be of any advantage to them. If they could be made to understand this, and if as a matter of fact clean samples obtained higher prices, they would in time, it is believed, take care to keep their grain as clean as possible. At present the only grain about which any trouble is taken, is that used for seed.

Grain-dealers in this district take little or no notice of the grain being clean or not. Probably all grain that comes to market contains much the same amount of dirt, as it is all threshed and winnowed on a uniform plan. If, therefore, only a few zemindars cleaned their grain they would not get a higher price for it, for it would not be worth a grain-dealer's while to buy small quantities of clean grain and pay a higher price, the bulk of the grain purchased by him being dirty.

Wheat not sown mixed with other crops.

4. In this District it may be said that wheat is never sown mixed with other crops. Taramira is grown on the boundaries and banks of fields of wheat, but is always harvested separately. A little sarshaf is also sown at times with wheat, but this is always pulled up green, before the wheat is ripe and used as fodder. Here and there on *lapara* lands mixed wheat and barley are sown, but the area is utterly insignificant. It is not usual to sow a second crop with wheat "as a protection against total failure of produce," and in the hope that if the season is unfavorable for the one it may suit the other crop.

As far as possible different varieties of wheat are not sown together in this district. "Ratti" is the wheat generally sown, and it is not mixed with other kinds. White and red wheat are never mixed.

No arrangements for cleaning grain in this District, and no export agencies.

5. No. arrangements have been made in this district for cleaning and winnowing grain before its despatch for export, nor have any agencies been established for purchase of wheat for export. What grain was exported was chiefly purchased by brokers from Amritsar and Lahore.

Trade of District.

6. There are no great marts in the district, and I am informed that before this year wheat was never exported to Europe. A very large quantity of oil seeds, both Sarshaf and Taramira, were bought up and exported during May—September, but comparatively little wheat.

No. 1182, dated 15th December 1888.

From—H. B. STEEDMAN, Esquire, Settlement Officer Rawalpindi.

To—The Deputy Commissioner, Rawalpindi.

In continuation of my No. 1142 of 3rd November, I have the honor to forward a statement showing quantity of grain and seeds exported from this district by the Punjab Northern State Railway during the 5 months ending September last. It will be seen that the estimated export entered in para 6 of my memo is not very accurate, and I should be obliged by your forwarding this statement on to the Commissioner of Settlements and Agriculture, Punjab :

Statement showing the quantity of food grain and oil seeds exported from Rawalpindi district to stations on Foreign lines and to P. N. S. Railway-stations south of Jhelam, from 1st May to 1st October 1883.

	May.		June.		July.		August.		September.		Total.	
	Food grain.	Oil seeds.	Food grain.	Oil seeds.	Food grain.	Oil seeds.	Food grain.	Oil seeds.	Food grain.	Oil seeds.	Food grain.	Oil seeds.
	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.	Maunds.
Lawrencepur	...	81	273	595	728	562	1,054	1,374	...	102	2,055	2,714
Burhan	...	...	...	71	238	256	4	754	...	...	232	1,079
Hassan Abdál	...	20	...	388	691	1,834	1,347	4,213	277	4,117	2,315	10,572
Serai Kala	...	546	...	1,056	2,106	2,020	1,013	779	548	359	3,667	4,760
Pind Sultan	...	...	180	157	2,512	1,229	1,205	574	...	...	3,897	1,960
Fatteh Jung	...	2,052	3,737	3,165	2,314	4,558	2,549	12,467	2,434	11,215	11,034	33,457
Rawalpindi	4,030	4,740	311	7,249	6,256	3,077	4,422	17,852	3,468	12,726	18,487	45,644
Gujarkhan	141	7,933	20,235	9,309	41,798	2,338	32,905	6,967	17,637	7,325	112,716	33,872
Campbellpore	...	20	...	597	...	...	250	690	...	1,073	250	2,380
Khushalgurh	...	...	...	...	...	203	...	...	...	...	...	203
Langar	...	...	...	...	275	233	...	276	...	...	275	509
	4,171	15,392	24,736	22,587	56,908	16,310	44,749	45,944	24,364	36,917	154,928	137,149

GUJRAT DISTRICT.

Extract of a letter No. 1069, dated 25th October 1883.
From—G. L. SMITH, Esquire, Offg. Deputy Commissioner, Gujrat,
To—The Commissioner of Settlements and Agriculture Punjab.

* * * * * * * * *

As regards para 4, enquiry has led me to the conclusion that little more in the matter of cleaning the wheat can be expected from the zemindars than is now done. This must be done by the large merchants. No one intentionally mingles dirt with the wheat, but that a good deal should remain mixed with it is inevitable from the imperfect means for cleaning at the disposal of the zamindars. The custom now is to pick out the hardest spot they can find conveniently near the field (generally a portion of the high road which is beaten hard by traffic), and having swept it and made it perfectly clear of all dirt but a little dust, they have the grain trodden out by bullocks, but such a process must necessarily work up a little of the earth floor into dust; and a lot more must also be borne in by the wind. Some few leep with earth the threshing-floor, but it is doubtful whether this is any improvement on the more simple process, in fact it is probably only resorted to when a fine piece of ground cannot be found. A sound and fine grass plot would be the best of all, but such are only available in damp places, such as the side of *chhambs*, and therefore they can never be generally resorted to. The ordinary process only cleans the grain so far as to leave about 2 per cent of dirt in it. To eliminate this would require so much trouble and almost skill, that it seems as if it must be left to the merchants who can afford winnowing machines to do it. There does not seem any objection to this, as if it must be done by some one, it is best it should be done by the cheapest method, which no doubt is that of the machine. For their own consumption the zemindars give the wheat one more cleaning after it has left the threshing-floor, but this being done in small quantities and by the women of the family, can receive detailed attention which it is hopeless to look for in more extended operations.

As regards para 5, I find that it is a very common custom here to sow wheat mixed with other crops. The object is partly to obviate a total failure of the produce, but principally, I am told, to keep it from the clutches of the banya creditor, and so to retain it for the private consumption of the cultivator and his family. The banya can make nothing of the mixture, and therefore takes out his debt in the purer wheat, but from the nature of things only a small amount of land is thus cultivated with mixed crops by each individual, and from the manner in which it is retained it does not affect the market or the question at issue. But as regards mixing the different sorts of wheat, this is very usual also : the cause of such a practice is partly (as in the case above) to obviate a total failure (for some kinds of wheat require more rain than others), and partly because no pains are ever taken to keep the sorts separate ; they are mixed at all stages from the seed upwards. This has resulted from there being hitherto no attention directed to the subject, nor any particular object in keeping them separate : in other words no demand for the pure article ; but now that this demand has arisen, and in a most marked manner, doubtless attention will be directed to the

matter with beneficial results, and already I learn that there is a marked demand arising for pure seed. When once the bunyas begin to ask for a pure product and to pay at higher rates for soil, no doubt it will not be long before a supply will arrive to meet it. The zemindars are quite sufficiently alive to their interests for this.

As regards para 6, the only special arrangements that have been made in this district for cleaning grain, is that a machine has been set up for this purpose at the railway-station. But with the exception of this dealer, the rest send their grain to Karachi, to be there cleaned by a machine. They are alive to the loss they thereby incur, and will probably take steps to make machines more general.

The chief local traders and their transactions are noted below :—

1. Doulatshah Puri of Gujrat.
2. Rajkour of Dharowal.
3. Lachmandas of Saroki.
4. Kanya Shah of Dingah.
5. Jawalladas of Kadirabad.

These traders keep very large stores of grain, and for the most part sell to the traders of Lahore, Jhelam, &c.; to some extent they trade directly with Karachi. One trader has bought wheat of the purer sort for export to Europe, to the value it is believed of about Rs. 45,000, since March of the current year, and Mr. Pavy, wheat merchant of Lahore, has transactions here.

The following traders have lately sent for wheat of the finest sort to Karachi, for export to Europe, *viz* :—

	Rs.
Asanand of Karachi...	15,000
Chetan of Shikarpur	10,000
Bujar, through Kirparam of Lahore...	10,000
Tahir Mahomed of Karachi	15,000

In conclusion, I would add that in any case, but especially when it comes to such large transactions as these, the trade, which demands every fostering care that can be given it, should on no account be saddled with the heavy tax of octroi which is sure to be levied on it at trade-centres almost invariably (Municipal corporation). The system of drawbacks and refunds seems to take no hold on the country, and the result of this is that much of the wheat trade is thus heavily weighted with an obnoxious burden. In Gujrat some attempt is made to obviate this evil by merchants who have started godowns at the railway station where they receive their consignments and avoid the city and its taxes, but I fear it is but a small percentage that thus escapes the tax.

MOOLTAN DISTRICT.

Copy of a report, dated 3rd August 1883.
From—RAI KARM CHAND, Extra Assistant Commissioner, Mooltan.

* * * * * * * * * * * *

2. I have consulted the chief grain merchants and some intelligent agriculturists of this district on the wheat cultivation. They are unanimously of opinion that the finer kinds of wheat in this district can only be cultivated on lands advantaged by rain-fall, and not by irrigation as in other districts, because the *barani* lands here consist of more clay than the canal lands.† The cultivators as a general rule do not intentionally add dirt to the grain, but it sometimes becomes dirty in their fields owing to some unavoidable causes, such as the blowing of adverse winds and softness of the threshing-floor. They do not try to get the grain cleaned, because the produce when ready is to be divided amongst several persons such as kamins, tenants and proprietors, and the surplus share of each of them is generally to be delivered to the money-lending class in payment of debts. The grain dealers are therefore the proper persons to be made responsible for the required cleaning. They do occasionally add dirt with a view of increasing the quantity of grain in their possession.

In this district, people do not store grain through the fear of weevils.

3. The habit of sowing wheat mixed with other crops does not prevail so much in this district, as in the Jullunder, Amritsar and Lahore Divisions. The only crop which it sometimes mixed here with wheat is barley ; and this is done only to a small extent, *i.e.* about 3 to 4 seers of barley are mixed in one maund of wheat of seed. Some people cultivate these mixed crops for the sake of obtaining more yield, while others do this for want of seed of pure wheat. The yield of wheat mixed with barley is 25 per cent more than that of pure wheat, but the former is sold 8 anas a maund cheaper than the latter. Such mixed crops are confined to lands on the banks of the rivers which are more suited to the barley crops than to the pure wheat crops. It is not common to sow mixed different varieties of wheat, but the grain dealers generally mix some wheat of inferior kind with the superior one for the sake of profit.

4. The grain dealers have made no arrangements here for cleaning the grain. They export it to Karrachi or Bombay, where it is cleaned before it is despatched to Europe.

5. There are no grain marts in this district, except Multan itself. The annexed statement will show the names of the firms of the principal grain dealers in Multan, together with the quantity of wheat exported by them during the last three years from Multan and elsewhere. The *safed* and the *surakh* Kanak (white and red wheat) are the only varieties hitherto most preferred for export by the local traders.

† I have enquired what is meant by this remark. The Deputy Commissioner explains that the wheat crops on the "*rawa*" (dry uplands, only occasionally irrigated) are much finer than those of regularly irrigated Canal lands. On this every one is agreed.

B. G. WACE.

Statement of the quantity of wheat exported

Serial number.	Names of merchants.	Quantity exported from Mooltan to Karachi.			
		1881.	1882.	1883.	Total.
		Mds. S. Ch.	Mds. S. Ch.	Mds. S. Ch.	Mds. S. Ch.
1	Gokal Dass—Jet Rup,	...	...	1,947 10 0	1,947 10 0
2	Khan Chand—Asanand	137 20 0	7,080 0 0	900 10 0	8,117 20 0
3	Fatteh Chand—Wali Ram	...	5,700 0 0	1,600 0 0	7,300 0 0
4	Dilsukh Rai and Hemraj	...	...	...	...
5	Sawai Ram—Tansukh Rai	...	3,935 20 0	...	3,935 20 0
6	Ganesh Dass,—Jowahir Mall ...	...	...	360 0 0	360 0 0
7	Dilsukh Rai—Gobind Ram	...	...	...	...
8	Choith Ram—Dasu Mall	16,100 0 0	13,500 0 0	10,400 0 0	40,000 0 0
9	Mahesh Dass—Gobind Ram	...	...	...	...
10	Raggu Mall—Nawand Mall	...	38,217 0 0	...	38,217 0 0
11	Toda Ram, agent of Hôt Chand—Fatteh Chand	...	...	5,965 0 0	5,965 0 0
	Total ...	16,237 20 0	68,432 20 0	21,172 10 0	105,842 10 0

from Mooltan and other districts to Kurachi.

QUANTITY EXPORTED FROM OTHER DISTRICTS TO KURACHI.					GRAND TOTAL.
Name of the district.	1881.	1882.	1883.	Total.	
		Mds. S. Ch.	Mds. S. Ch.	Mds. S. Ch.	Mds. S. Ch.
...	...	...	...	...	1,947 10 0
...	...	...	...	...	8,117 20
...	...	...	...	...	7,300 0 0
Depalpore ...	...	1,350 0 0	...	1,350 0 0	1,625 0 0
Muzaffernagar ...	...	275 0 0	...	275 0 0	
Jalandhar ...	...	524 20 0	7,402 0 0	7,926 20 0	
Depalpore ...	...	3,500 0 0	888 10 0	4,388 10 0	
Changa Manga ...	...	...	3,127 20 0	3,127 20 0	
Gujranwala ...	...	...	12,815 0 0	12,815 0 0	
Pind Dadan Khan	...	...	6,825 0 0	6,825 0 0	
Pind Gujar Khan	...	...	1,591 0 0	1,591 0 0	
Jhelum	...	...	535 0 0	535 0 0	
Amritsar	...	6,367 10 0	...	6,367 10 0	
Muzaffarnaggar ...	...	2,254 0 0	...	2,254 0 0	
Chunian	...	17,699 0 0	...	17,699 0 0	
Saharanpore ...	...	696 0 0	...	696 0 0	
Pakpattan ...	...	1,205 0 0	...	1,205 0 0	60,365 0 0
...	...	...	...	...	360 0 0
Depalpore... ...	...	5,086 24 0	...	5,086 24 0	5,086 24 0
...	...	...	...	...	40,000 0 0
Gujranwala ...	...	265 0 0	...	265 0 0	
Pakpattan ...	...	692 30 0	...	692 30 0	
Chunian	...	...	767 20 0	767 20 0	
Wazirabad ...	...	...	1,250 0 0	1,250 0 0	
Minchinabad ...	...	...	634 7 8	634 7 8	
Gujranwala ...	...	...	258 20 0	258 20 0	3,867 37 8
...	...	...	...	...	38,217 0 0
...	...	...	...	...	5,965 0 0
...	...	39,915 4 0	36,093 37 8	76,009 1 8	181,851 11 8

JHANG DISTRICT.

Extract of a letter No. 598, dated 14th November 1883.

From—Major R. BARTHOLOMEW, Deputy Commissioner of Jhang,

To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * *

1. Zamindars, whether poor or rich, with the exception of a few very careful cultivators, are not careful to get good seed corn. Wheat-seed of different kinds and barley-seed are got from the baniahs mixed ; wheat and barley come up together, and are not separated in the threshing-floor.

2. Barley is of larger bulk than wheat ; and selling by measure, not weight, the zamindar finds his profit in keeping the barley mixed with the wheat.

3. The more careless zamindars are not careful to tread out the corn twice. They are satisfied with separating the bhoosa, and do not tread the corn again to get rid of the bits of husk. The portions of ear and husk also help to fill up the *topa* (measure), and so increase the bulk of grain.

4. Some zamindars are not careful to remove the dung falling from the bullocks, but allow it to mix with the grain.

5. Another reason for leaving the grain dirty is this. Only one price is fixed for wheat at harvest time. There is no such thing as various prices for different qualities—

1st quality.
2nd ditto.
3rd ditto.

For this reason the dirtier the wheat is, the more the zamindar gets for it.

6. Dirt from the threshing-floors also gets mixed with the grain to some extent.

Zamindars with large stores of wheat and all baniahs, who buy large stores, mix a proportion of fine dust, or bhusa, or black *kallar* (saltpetre), the last especially where procurable, to keep the grain from rotting.

e.g. Black *kallar* exists in great quantities near Shah Jiwana, and camel loads are brought to Jhang every year for this purpose. Muhammad Panah, who is considered the best agriculturist in the district, says that he never puts anything with his wheat to keep it. He is careful in cleaning and drying it, and always stocks it in the early morning after it has been cooled by the night air. In case he wants to keep the wheat for a second year, he empties it from the old stock, and builds a new one for it.

In reference to para 5, I have already stated that barley and wheat are often sown together. Other crops are not mixed with wheat in this district. On the Ravi I am told that mustard, gram, barley and wheat are often sown together.

With reference to para 6, the grain dealers and some of the zamindars of this district export grain to Multan and Sukkar, and grain dealers from these places and from Kamalia and Dera Ghazi Khan come and buy grain here for export, but all the grain is exported in its dirty state. The seller says—"here it is, take it or leave it."

The zamindars sow every kind of wheat in every kind of soil. They make no distinction. They have the following names for different kinds of soils.

For Hithar or Sailab lands the names are *bhari* or heavy, and *rora* or light soil. The *bhari* has 3 feet or more of silt over the sand, the *rora* less than 3 feet.

For Utar or uplands, the names are *rarra* and *pabri*.

Rarra is hard alluvial soil, all clay, no sand ; *pabri* is clay and sand mixed.

Thall soil is called *retli* and *pabri*. *Retli* is sand alone above with *pabri* underneath ; *pabri* is sand and clay mixed on the surface as well as below.

The Settlement officials have divided Hithar soils into *dar ratti*, red alluvial soil ; *dar sufaid*, grey alluvial soil ; *ghassar*, alluvial soil mixed with sand ; and *rappar*, which is the same as *rora*. Then comes the *vusti*, or land half Hithar and half Utar.

The soils are divided into *pabri*, *kalrachi* and *rora*.

Kalrachi means soil mixed with *kallar*. Utar lands are divided into *pabri* and *rakkar*, which is the same as *rarra*. Columns 6 and 7 have no meaning for this district.

All kinds of wheat are, as I have said before, sown on all kinds of land, and the more care is spent on cultivation the better the crop is.

Irrigation is necessary for all but the best sailab lands.

The deeper the well is, the more often has the land to be irrigated. The highest Utar lands require 12 waterings to bring the crop to ripeness, while some of the Hithar lands require not more than two waterings.

The native name for weevil is *ghun*.

There is no doubt that mixing dust, bhusa and black *kallar* is resorted to to preserve the grain from weevils and mildew.

MUZAFFARGARH DISTRICT.

Extract of a letter No. 395, dated 26th October 1883.

From—C. E. GLADSTONE, Esq., Deputy Commissioner, Muzaffargarh,

To—The Commissioner and Superintendent, Multan Division.

* * * * It is my impression that none of the wheat grown in this district is pure. It all appears to me to be mixed with other kinds: red with white ; bearded with beardless probably, and all with barley, except Paman and Dudhi. These samples are much purer, but then these wheats are a speciality. They are not common food crops.

Paman is a long hard white grain, easily distinguishable. It is used for parching ; Dudhi is a short, plump, white grain used for maccaroni, confectionery, and the like. Paman requires more careful irrigation and treatment generally than other kinds, and Dudhi likes good land a nda fair amount of water. The crop is as the statement shows insignificant in extent.

Dallelan is not a common crop; it is only planted in some 1,515 acres of land. It is used for maccaroni, though inferior in this to Dudhi, and also for confectionery. It is also made into bread. It is whiter than Baggi or white wheat, and though it is difficult to distinguish it at close quarters, it is easy to distinguish from Baggi by putting a handful of each on a table and stepping back 3 or 4 paces.

As for hardiness, the palm must be given to Ratti or red wheat and the bearded kinds. They are largely grown on alluvial lands as the statement shows, and thrive there without irrigation. Baggi grows best on good land, such as *milk* and *ghas*, but if good land is not obtainable it is grown on inferior. It prefers a fair amount of well irrigation, but is to a considerable extent grown on the *bets*.

It is not quite so hardy as Ratti or red wheat.

Baggi, or white wheat, and Ratti, or red wheat, are all used for ordinary food, but the former is used for confectionery, and I do not understand that red wheat is.

The wheat chiefly exported is Baggi, or white wheat; but it is not clean nor is it pure.

First—as to cleanliness. The wheat is trodden out by oxen and becomes foul from dung and urine. The cultivators then, after winnowing it, let it lie on the ground until they have sown their Kharif. Squirrels and birds befoul it, and the dust raised by wind falls into it too.

It thus arrives at the corn merchants in a dirty state. The remedy for this is introduction of packa threshing-floors, covered barns, use of flails and winnowers. This can be done, but it will take time and tact. About purity, the great draw-back is the indebtedness of the people. They have to take any grain their Sahukár gives them. This is never pure. Pure wheat hardly exists. Even large growers and exporters like Kaura Khan Jatoi of Jatoi have no pure seed. The remedy is to take specimen zamindars like Kaura Khan, and obtain for them pure seed, and let them see that such pure wheat fetches better prices in Sukkar. I do not say that in Sukkar they will get better prices, but I think they will. The exporters say that they would wish also for greater ease and facilities in obtaining accommodation at the stations on the Indus Valley Railway and at Sakkar for wheat storage. They can get wheat storage at Sakkar, but not easily. They would, they say, use the rail, if this could be managed. Further, the purity of the grain is destroyed by the corn merchants. These men collect wheat from hundreds of farmers and throw it all into one *palla*. They throw all the blame on the cultivator. The corn merchants and village Sahukár are more to blame than the cultivator. This could be got over in time with tact. If pure wheat is to be bought and pays better than impure to export, the corn merchants will keep it separate. The cultivators are to a great extent helpless. They must take impure grain from their creditor the Sahukár. If pure grain was to be had, they could not get it. They must give their custom to the Sahukár. We have two classes to turn to: zamindars who export themselves and are out of debt (a small class), and the grain-lenders who also export. We could get a supply of pure wheat and supply some of these classes, and show them that keeping this for seed and keeping it pure and then securing its produce and exporting that pure, they will profit. This accomplished, they will insure pure wheat being sown and exported pure and separate; others will in time copy them.

Wheat is sown mixed with pulse and other crops to be fed green to the cattle. The motive is avarice, and it is sometimes done on all lands.

Our grain-dealers have no means of cleaning grain, and no intention of starting any. They are apathetic. They will of course become energetic when they see the profit of it. We have no agencies in the district. The principal marts are Khairpur, Sitpur, Alipur, Jatoi, Shah Sultan, Khangarh, Muzaffargarh for Sakkar direct; Rangpur for Multan; Kot Adu, Daira Din Panah, Jhatta, Gurmani and Sheikh Umar for Dera Ghazi Khan, Muzaffargarh and Multan, not for Sakkar I think. Our principal traders are chowdhri Lekhu Ram, chowdhri Parmanand, chowdhri Jawinda Ram, chowdhri Gonda Ram of Muzaffargarh, Gonda Ram Bhagat of Alipur, Pokar Aliás Peroshai and Diála of Khairpur, Kaura Khan, of Jatoi, Ahmed Ali Khoja of Jatoi, Pokar Kalra and Udho Das of Sitpur, Jhangi Gulaht of Sheikh Umar, Mian Mahbub Khan of Jhatta Gurmani, Motan Chokra and Kania Makhija of Rangpur. There are some grain merchants doing a considerable trade in wheat in the small village of Harpallo,—Mewa Mal, Gurdutta, Mangu Mal Batra and Isar Das Virmani.

Baggi is chiefly exported, but other kinds are largely exported, including a good deal of red wheat from Alipur tahsil. To sum up, the necessary things are—

(1) To provide wheat storage on reasonable terms, *and which shall be available without difficulty*, at Sakkar and at the stations along the Indus Valley railway which runs parallel with Muzaffargarh.

(2) To obtain pure wheat and make it over as seed-wheat to large zamindars and grain-lenders, who are also exporters—District Committee to watch this.

(3) To impress on the grain merchants the necessity of not mixing the grain of different kinds received from different farmers, all in one big *palla*, and convincing them that it will be to their profit to buy and export pure grain.

(4) To encourage a few grain lenders to keep pure seed.

(5) To gradually introduce a clean method of threshing, winnowing, and storing wheat among the cultivators.

No. 1 must be done by Government,—we can do nothing. No. 2 and 4 can be done by the District Committee. No. 3 and 5 can be done by the Deputy Commissioner and District Committee, in time, with tact.

DERA ISMAIL KHAN DISTRICT.

Extract of a letter No. 1132, dated 19th November 1883.

From—S. S. THORBURN, Esquire, Deputy Commissioner Dera Ismail Khan,

To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * * * * * * *

2. Of the samples described in the statement, the yellow kind and those known by the names of red Kundi and Damani are preferred by the people of the district.

3. The wheat grown in the Kachi tracts of tahsils Dera Bhakkar and Leiah, is not properly cleaned by the cultivators, as they remove it to places above inundation levels as soon as cut. In other parts of the district the wheat is fairly well cleaned from all dirt, and commands a higher price, partly as being cleaner and partly as being of better quality. Grain dealers in this district take no trouble to clean wheat. They are not in the habit of mixing it with other grain, but export it as purchased from the agriculturists.

4. Wheat is not cultivated with other crops. The poorer cultivators are obliged to take advances from banniahs of seed grain, and those banniahs often mix barley with the wheat, with a short-sighted view to extra profits.

5. No arrangements have been yet made by grain dealers for cleaning the grain before despatch. There are no agencies in the district for the purchase of grain for export to Europe, but corn merchants and brokers come all the way from Sakkar, whenever the trade in wheat is brisk, and buy up the local supplies and send them down the river by boats.

6. There is an open grain market or *mandi* in the city, to which large quantities of grain are brought from adjacent villages, and more especially from Marwat in the Bannu district, and bought up by the people. The trade in wheat has been slack during the past three years, but in the present year it has become a little brisk owing to demand at Sakkar for export to Europe. The descriptions generally exported are known as *baggi*, yellow and red.

DERA GHAZI KHAN DISTRICT.

Extract of a letter No. 1599, dated 8th December 1883.

From—F. W. R. Fryer, Esquire, Deputy Commissioner, Dera Ghazi Khan,

To—The Commmissioner of Settlements and Agriculture, Punjab.

* * * * * *

2. I have consulted the chief grain merchants and some intelligent agriculturists as to how cleaner, finer, and less mixed grain can be secured for the export trade, and I find that it is the cultivator who garners the grain in a dirty state. He selects the cleanest and firmest patch of ground on his own lands as a threshing-floor; where the threshing-floor consists of good hard clay the wheat is comparatively clean; where, however, the soil is in any way sandy, a certain amount of sand must necessarily get mixed up with the wheat, and the greater part of the wheat exported is grown in this district on alluvial lands where the soil is sandy.

3. The exporters here are agents of merchants at Sakkar, Karachi, and Kotri. They buy up the wheat as offered for sale, fixing a lower rate for wheat not clean. They cannot go to the expense and trouble of cleaning the wheat, nor can the merchants at Sakkar, Karachi and Kotri, who dispose of their consignments to large firms at Karachi and Bombay, where it is believed the wheat goes through a sifting process preparatory to being shipped to Europe.

4. If samples of the different classes of wheat recognised by the English trade, were made available for inspection in each Tahsil and in every Patwár-khána, every endeavour would be made to impress upon zamindars the necessity for cultivating such kinds; moreover, any instructions for the cultivation

of better wheat and its preparation and preservation for the market, if submitted, would be carefully distributed, and pains taken that the people understand these instructions.

5. In this district the habit of sowing wheat with other crops does not exist. Wheat and barley mixed is sown, but this is due to the use of bad seed. The descriptions termed *goji* and *jowali* show the kinds referred to.

6. The principal grain mart in this district is the city of Dera Gházi Khán; Sangarh, Jámpúr, Rájanpúr, Rojhan, and Mithankot are also grain marts on a smaller scale, from whence wheat is exported to Sakkar and other places. The average annual exports from the different marts are as follows:—

	Maunds.
Dera Ghazi Khán	80,000
Sangarh	10,000
Jámpúr	10,000
Rojhán	15,000
Mithankot	15,000

Accurate information as to exports cannot be given, as only trade with the Biloch hills and Sewestan is registered. The average, however, above given may be considered fairly approximate, as the information has been obtained from traders themselves.

BANNU DISTRICT.

Extract of a letter No. 898, dated 10th September 1883.

From—M. L. DAMES, Esquire, Deputy Commissioner of Banná,

To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * * * * * * *

2. I have collected all the information at present available on the subject, but there are no large firms in this district engaged in the grain trade, (although considerable quantities of wheat are exported from Isakhel and Kálábagh down the Indus), and there is a difficulty in finding persons qualified to give the information required. As to the qualities of the wheat, however, it is quite clear that the remark in para 4 of your letter that "the finer kinds of wheat can only be cultivated on lands advantaged by irrigation or by an abundant rainfall," does not apply in this district. On the contrary, the finest qualities are grown in the sandy plain of Marwat, and depend entirely on the scanty rainfall and hill torrents. After this "Shiga" wheat comes that grown in the Waziri Thal (Hátikhel and Jánikhel), the Isákhel Thal, the Marwat Vakka or skirt of the hills, and the Wahiwáli, Uthradwali and Thalwali of Mianwáli, which are all baráni with or without the occasional assistance of hill torrents. On the other hand, the poorest wheat produced is the Bannúchi, grown on the irrigated lands of the Kurram, and the quality of the sailába wheat grown in the Kacha of Isakhel and Mianwáli is not much better. Other causes besides irrigation no doubt come into play. For instance, the Marwat 'Shiga' wheat is alternated with gram, and only grown on the same land every

second year, while in the irrigated lands of Bannú and Nár crop after crop is taken off the same land, and in Bannú the wheat is actually sown with sugar-cane and clover.

3. As to the cleaning of wheat a good deal seems to depend on the nature of the ground of the threshing-floors, *i.e.* whether firm clay or otherwise. I do not believe that the zamindars will be induced to take much more trouble in cleaning than they do at present, but this will have to be done by the grain-dealers. At the same time many specimens seem to be clean and free from dirt.

4. There are, as I observed above, no large grain-dealers in the district, nor are there grain markets in any town of the district to serve as centres of trade. Their establishment in the riverain towns of Isakhel and Kalabagh, and probably in Lakki also, would no doubt be a great advantage to the grain trade.

5. The wheat preferred for export is the Marwat Shiga, but I believe that wheat grown in the Thal tracts (as in the Isakhel Thal) is often mixed with it, the quality not being very inferior. The Bannú wheats are never exported. The sailaba wheats of the Indus Kacha, though inferior in quality, are also exported owing to their cheapness and proximity to the river. The trade is carried on with Sakkar, and is ruled entirely by the prices ruling there.

PESHAWAR DISTRICT.

Extract of a letter No. 2117, dated 26th November 1883.

From—H. B. BECKETT, Esquire, Deputy Commissioner of Peshawar,

To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * * * * * *

2. The export trade of wheat from this district is very trfling, the supply being little more than sufficient to meet the demand within the district, and it is not probable that the export trade could ever be much extended in this direction.

3. The cleanliness or otherwise of the garnered grain, as far as the cultivator is concerned, depends chiefly on the condition of the granary. If this consists of a * board floor, the grain will be fairly clean. If, on the other hand, the floor is soft or stony, a large amount of dirt must necessarily get mixed up with the grain, which it is not worth the cultivator's while to winnow out afterwards. He does what he considers his best to clean the grain, but it still falls very short of the English farmer's standard of cleanliness. No attempt is generally made to clean the grain after its removal from the granary, and it is sold to the local trader as it lies in the grain-bin, the cultivator having neither the time, nor the inclination to winnow it more thoroughly. This bin is carefully made inside their houses with wattles interwoven with *chuttais*, having its floor generally raised from the ground to prevent the access of damp to the grain. The Tahsildar of Mardan reports that the cultivators in his tahsil, as a rule, prefer to store their grain somewhat mixed with dirt, as this, they assert, secures it from the attacks of insects, a curious circumstance, if true.

* NOTE.—Threshing-floors in this district are never boarded, but the grain receptacles, "khambas," are almost always floored with boards raised from the ground, which are covered with a smooth coating of "lipai."

No doubt a considerable quantity of dirt is added in the passage of the grain through the hands of the local traders to the central mart, and even there it is not stored with any care. No dirt is probably added to the grain by the zamindar voluntarily, though this cannot be asserted so confidently of the local traders. In conclusion, the grain is no doubt garnered in a more or less dirty state by the cultivator, and more dirt is involuntarily added during its passage to the central mart, and its storage there through the hands of the local traders, who besides sometimes deliberately mix dirt with the grain to increase their profits.

4. The cleaning of the grain, if done at all to any great extent, must be carried out by the trader. The cultivator, in this district at least, would never think it worth his while to market or store his grain in a cleaner condition than he does at present. His time is so taken up with more important (at least according to his ideas) agricultural work, that he has not any spare time to devote to this. To the trader then we must look for the proper cleaning of the grain.

5. The habit of sowing wheat mixed with other crops is not practised in this district, nor are different varieties of wheat sown together. The mixing, if any, is done by the local trader, the zemindars keeping their stores of the different varieties of wheat separate.

6. With reference to paras 6 and 7 of your letter under reply, no information can be given, the wheat export trade of this district being all but *nil*.

HAZARA DISTRICT.

Extract of a letter No. 2133, dated 28th November 1883.

From—Major T. C. PLOWDEN, C. I. E., Deputy Commissioner of Hazara,

To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * * * * * *

2. As regards paras 4 and 6 and 2, (i) *viz.* as to how cleaner, finer, and less mixed grain can be secured for the export trade, I submit the following particulars ascertained from agriculturists and small grain dealers, there being no large grain merchants in the district. The grain is not to any extent marketed, but stored by the cultivators, and that in a somewhat dirty state owing to the want of cleanliness of the threshing-floors. This fact accounts for the dirt and grit found intermingled, but to no great extent, with the wheat. Wheat is sold in very small, indeed almost insignificant, quantities, for export; and dirt is mixed to a trifling extent by the small grain dealers, to whom therefore we must look for the required cleaning of the grain. The cultivator is not sufficiently interested, owing to the small trade in grain, in making it over in a clean state to the grain dealer; nor is he interested in cleaning that garnered, as the presence of grit and dirt does not materially affect the grain stored for his own consumption. Wheat is not exported in any great quantities from this district. The principal harvest is the Kharif, in which, according to the Hazara Settlement Report (page 88), 208,788 acres are shown as having been sown during the period of settlement operations, *viz.* 1868—1874 as against 172,390 acres in the Rabi harvest. Again, of the Kharif harvest maize occupies 121,051 acres or 30·5 p. c. of

the whole area cultivated, whilst wheat is sown in 191,910 acres or 23·3 p. c. of whole area, and roughly in the proportion of ·75 to maize. This latter grain is exported in large quantities ; but wheat is sown almost entirely for home consumption. Therefore no arrangements have recently been introduced by the small grain dealers for cleaning grain before export, and no large export agencies exist. It will be observed from the statement attached that wheat cultivation has almost doubled itself in the past 5 years ; but nevertheless no export trade has sprung up.

3. As regards para 5, *viz.* the mixing of wheat with other crops, the only crops with which it is so mixed are mustard or turnips, and that on very inferior lands. As in the whole district only "a few acres" (according to Hazara Settlement Report, page 93) is sown with turnips and less even with mustard (which is apparently included in the same page under the head "Miscellaneous, 312 acres"), it is clear that this mixing is resorted to to a very insignificant extent, with the object of providing vegetables and oil from land not sufficiently good to be devoted to wheat alone. Different varieties of wheat are not sown together; and such mixing of varieties as may occur occurs in the grain-stores.

4. Regarding para 7, as before shown, there are no large wheat marts no large traders or agencies, and the red variety, sample No. 3 of the Mansehra tahsil (*vide* descriptive list enclosed) is that most preferred for export.

KOHAT DISTRICT.

Extract of a letter No. 1401—3224, dated 28th November 1883.

From—H. St.G. TUCKER, Esq. Deputy Commissioner, Kohat district,

To—The Commissioner of Settlements and Agriculture, Punjab.

* * * * * * * * * * * *

2. Generally speaking, the Kohat district does not produce wheat to any large extent. During years of good and timely rain, however, that portion of the district called the Chauntra valley in the Khattak (Teri) tahsil, yields an abundant wheat crop.

No accurate estimate of the yield of this tract has ever been prepared. The area under wheat cultivation for the whole Teri tahsil in a good year might be put down at 56,000 acres, producing 280,000 maunds of wheat. During such years there is a large amount of export to Karachi by river, and to the Peshawar district by land.

The other tracts of the district are self-supporting, but have no surplus for export trade to speak of. Of late years, owing to deficient rain, the cultivation and production of wheat in the Chauntra valley and in other parts of the district, have been a good deal below the average, and the district was therefore unable to spare any surplus for export.

The produce of wheat in Rabi 1882 was estimated at 233,439 maunds, and the area under wheat for the last Rabi (1883) in the whole district was put at 60,683 acres. In a good year it can safely be put at 97,500 acres. This area has been entered in the statement accompanying this report.

3. The only specimen of wheat from this district which was found dirty was the Miranzai Maudz Surkai, *vide* entry 96 in the supplemental report on the Indian wheat by Mr. M. C. Coorke, 1881. It is beardless wheat, and is sown in Bar and Jabbi villages. The other samples sent from this district were either clean or fair as below:—

No. in supplemental Report.	Locality.	Name.	Condition.
95 ...	Baizai	Ratti Súrkhai	... Fair.
97 ...	Teri Khattak ...	Súr Ghanam	... Do.
98 ...	Hangu ...	Spín do.	... Clean.
99 ...	Kohat	Kulangi...	... Do.

4. The cultivator does not add dirt when sending wheat to the market for sale, nor does he add it when storing it in his granary.

In places where the ground is not fast and hard, it breaks under the hoofs of the cattle when treading out the corn, and in this way dirt is mixed with the corn. The cultivator, however, does not care to clean it at the time of garnering.

The grain is, however, cleaned when it is taken to the water-mills for grinding purposes.

5. With reference to para 5 of your letter, wheat is not sown mixed with other crops in this district.

6. With regard to para 6, no arrangements have been introduced for the proper cleaning of wheat by the grain-dealers in this district, as there is no export trade to any large extent.

7. With reference to para 7, there are no principal grain-dealers in this district. Kohat city is the only place to which wheat is imported from the Chauntra valley and other parts of the district, as well as from the Bannu district for retail sale.

It is sometimes exported to Peshawar when the market there is favorable.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE DISTRICTS OF THE PUNJAB IN THE YEAR 1883.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the Sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
1	DELHI.	White (Daud Khani)	63,073	2,033	10,000	75,106	Beardless...	Not mixed ... ...
2		Red (Surkh) ...	41,840	6,476	15,331	63,647	Bearded ...	Is usually mixed with barley and gram crops
		Total ...	104,913	8,509	25,331	1,38,753		
3	GURGAON.	Gurgaon—Red	5,095	10,475	...	15,570	Bearded ...	Alone, and also mixed with barley and gram.
		Rewari Do. ...	6,459	694	525	7,678	Do, ...	Alone... ... ...
		Palwal Do. ...	10,979	819	3,069	14,867	Do. ...	Alone, and also mixed with barley and gram.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English Trade denomination.
Rausli and Dakar; most suited for the latter.	Requires careful cultivation and irrigation, but thrives with less care on Dakar than on Rausli.	17 sers per rupee.	Is preferred for daily food, and used largely at feasts and in confectionery.	exported largely.	Much ...	2-14	No. 1 club.
Ditto ...	Does not require as much care as the white wheat, and thrives better on Dakar than on Rausli soil.	21 Ditto ...	Is used chiefly for daily food, but is also used at feasts and in confectionery.	Is exported to a small extent, the bulk of the produce being consumed locally.	Little ...	2-6	Bold soft red.
Naturally flooded clay soil, and light loam irrigated from wells.	Requiring careful cultivation and irrigation.	18 sers per rupee.	Used for daily food as well as at feasts and in confectionery.	Exported to a small extent.			
Light loam irrigated from wells	Not hardy, requiring careful cultivation and irrigation.	21 do.	Do.	Half of the produce exported.	Average	Rs. 2-6	Soft red.
Good loam irrigated from wells and by the river and canal.	Ditto	Varying from 20 to 23 sers per rupee.	Do.	Exported to a small extent.			

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
Serial Number.	District in which grown.	Local name or names of the Sample.	ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.				Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
			Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.		
3—*Concluded.*	GURGAON.—*Concluded.*	Nuh red ...	2,612	7,908	...	10,520	Bearded ...	Alone on land irrigated from wells, mixed with gram and barley on flooded land.
		Firozpur Do. ...	809	10,166	6,800	17,775	Do. ...	Ditto ...
		Total ...	25,954	30,062	10,394	66,410		
4	KARNAL.	Pílí Túr Wálí ...	18,569	13,136	4,461	36,166	Bearded ...	Not mixed with other crops.
5		Pílí Múndlá ...	6,330	3,330	1,572	11,232	Beardless...	Ditto ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued).*

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown and for which it is most suited.	Whether hardy are requiring careful cultivation and irrigation.	Present price (1883), sers per Rupee.	Whether preferred for daily food or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1.—Much. 2.—Average. 3.—Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Naturally flooded clay soil, and good loam irrigated by the canal.	Not hardy, requiring careful cultivation and irrigation.	20 to 23 sers per rupee.	Used for daily food as well as at feasts and in confectionery.	Not exported.			
Naturally flooded clay soil, and good loam irrigated from wells or by the canal.	Ditto	Varying from 21 to 23 sers per rupee.	That produced on land irrigatedfrom wells is used at feasts, and that produced on naturally flooded land for daily food.	Produce of naturally flooded land exported to a small extent.	Average	Rs. 2-6	Soft red.
Rausli ...	Cannot stand dryness, requires care and irrigation.	19 seers ...	Chiefly preferred for marriages and for sweetmeats.	104,000 mds. exported during the last 3 years.	Average	2-11	Good club No. 2.
Ditto ...	The above remarks apply with greater force.	19 do. ...	Chiefly used in daily food, slightly used for sweetmeats and in marriages.	63,000 ditto	Little ...	2-6	Hard red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops and if so, with what crops.
6	KARNAL.—*Concluded.*	Lál	23,699	17,466	6,233	47,398	Bearded ...	Mixed about ⅓rd with gram and barley.
7		Kághzí (Daúd Khání or Pílí Gehun.)	1,000	200	...	1,200	Ditto ...	Not mixed with other crops.
		Total ...	49,598	34,132	12,266	95,996		
8	HISSAR.	Pamman (Hard white).	50	...	...	50	Bearded ...	Not mixed ... ...
9		Pissia (Soft red)	27,952	...	...	27,952	Ditto ...	Ditto ... ...
10		Kuthya (Hard red).	...	5,329	12,011	17,340	Ditto ...	Commonly mixed with gram.
		Total ...	28,002	5,329	12,011	45,342		
11	ROHTAK.	Lal Gehun (Red wheat, soft) ...	4,325	...	...	4,325	Bearded ...	Mixed with jow (barley)
12		Ditto (Hard)...	4,431	...	...	4,431	Ditto ...	Ditto.

DISTRICTS OF THE PUNJAB. IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) seers per rupee.	Whether preferred for daily food or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1—Much. 2—Average. 3—Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Rausli ...	Is fairly hardy and does not require much care and irrigation.	21½ sers ...	Entirely used for daily food, not for marriages and sweetmeats.	4,000 maunds exported during the last 3 years	Average	2-4	Soft red.
Good Rausli (light loam.)	Requires careful cultivation, weeding, & much irrigation.	20 do. ...	For feasts and for confectionery.	Too little grown for export.	Average	2-11	Club No. 2.
The best hard soil carefully irrigated.	Requires careful cultivation.	16 sers ...	At feasts and in confectionery.	Not exported.	Much ...	2-5	Hard red.
Hard soil of good quality and irrigated.	Ditto.	17 sers ...	Daily food & also confectionery.	A small quantity goes to Bikaner.	Much ...	2-4	Soft red.
Hard soil of good quality.	Hardy ...	17 sers ...	Daily food	Ditto.	Much ...	2-3	Soft red.
Rausli chahi	Requires careful cultivation & irrigation.	20 sers ...	Preferred for daily use.	Exported but to a small extent.	Average.	2-4	Soft red.
Motiyor Dakar Dehri.	Hardy, requires little or no irrigation.	21 Do ...	Ditto ...	Ditto ...	Average.	2-5	Bold soft red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the Sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
13	ROHTAK.—*Concluded.*	Lal Gehun—(Red wheat Soft).	...	...	113	113	Bearded ...	Mixed with barley and gram.
14		Ditto Do ...	10,170	...	1,552	11,722	Ditto ...	Not mixed with other grains.
15		Ditto Do ...	2,370	200	8,276	10,846	Ditto ...	mixed with gram.
16		Ditto Do ...	10,198	...	10,330	20,528	Ditto ...	Mixed with barley.
17		Safaid Gehun-(White wheat soft)	2,223	...	...	2,223	Ditto ...	Not mixed with other grains.
18		Ditto Do ..	64	...	...	64	Ditto ...	Mixed with barley.
19		Ditto Hard	15	...	...	15	Beardless...	Not mixed with other grains.
		Total ...	33,796	200	20,271	54,267		
20	SIRSA.	Rez	68	9,235	...	9,303	Bearded ...	Barley and gram ...
21		Sotar	...	...	5,029	5,029	Ditto ...	Ditto ...
22		Jangal	...	...	2,966	2,966	Ditto ...	Ditto ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued)*.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English Trade denomination.
Rausli, Motyar, Barani.	Hardy, requires little or no irrigation.	23 sers ...	Preferred for daily use.	Not exported	Little ...	2-2	No export demand
Rausli, Canal	Requires careful cultivation & irrigation.	19¾ Do. ...	Do. ...	Ditto ...	Average.	2-4	Soft red
Ditto ...	Ditto ...	21½ Do. ...	Do. ...	Ditto ...	Little ...	2-2	No export demand.
Ditto ...	Ditto ...	22 Do. ...	Do. ...	Ditto ...	Little ...	2-2	No export demand.
Ditto ...	Ditto ...	20 Do. ...	Feasts and confectionery,	Ditto ...	Much ...	2-14	Club No. 1.
Ditto ...	Ditto ...	20½ Do. ...	Do. ...	Ditto ...	Much ...	2-14	Club No. 1.
Rausli, Motyar, Canal.	Ditto ...	18 Do. ...	Do. ...	Exported to a small extent.	Average.	2-6	Hard red.
Rez and Chahi.	Wheat hardy	20 sers ...	Generally used at feasts and in confectionery by the people in the district.	A limited quantity is exported from this district as will be seen from para 6 of this office letter No. 478, dated 20th Aug. 1883.	Much ...	2-4	Soft red.
Sotar ...	The same...	21 sers ...	Ditto ...		Ditto ...	2-3	Do.
Barani ...	Wheat requiring careful cultivation and irrigation.	27 sers ...	Ditto ...		Ditto ...	2-2	Ordinary soft red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial No.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailáb, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
23	SIBSA.—*Concluded.*	Dandi (wheat)	505	930	400	1,835	Bearded ...	Barley and gram ...
24		Ghunni „ ...	2,152	500	800	3,452	Beardless...	Ditto ...
25		Ratti „ ...	250	2,102	3,395	5,747	Bearded ...	Ditto ...
26		Phuman ...	900	275	...	1,175	Ditto ...	Without any mixture.
		Total ...	3,875	13,042	12,590	29,507		
27	AMBALLA.	Dáúd Khani ...	2,362	7,183	42,250	51,795	Ear bearded	This is generally sown alone, and occasionally mixed with gram and barley.
28		Ditto Mundli	579	173	1,199	1,951	Beardless...	Generally sown alone
29		Lál Gihún ...	29,145	16,244	2,51,843	2,96,732	Ear bearded	It is sown alone on irrigated and sailábá land, and on báráni land it is sown mixed with barley and gram.
		Total ...	32,086	23,600	2,94,792	3,50,478		

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued)*.

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) seers per Rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Rez, Chahi and Barani.	Wheat requiring careful cultivation and irrigation.	21 sers ...	Generally used at feasts and in confectionery by the people in the district.	A limited quantity is exported from this district as will be seen from para 6 of this office letter No. 478, dated 20th Aug. 1883.	Much ...	2-8	Club No. 3.
Ditto ...	Ditto ...	Ditto ...	Ditto ...		Ditto ...	2-11	Club No. 2.
Ditto ...	Wheat, hardy	26 sers ...	Ditto ...		Ditto ...	2-2	Ordinary soft red.
Chahi & Rez	The same...	24 sers ...	Generally used at feasts and in confectionery.		Average	2-5	Hard red.
Most suited for rausli, niai, abi, and rausli niai barani.	Requires careful cultivation & irrigation, & ploughing of not less than 6 or 7 times.	20 seers ...	Preferred for daily food, and also used at feasts and in confectionery.	Not exported.	Average...	2-14	Club No. 1.
As above ...	Do.	Do. ...	Used at feasts and in confectionery.	Do.	Do.	2-11	Club No. 2.
Most suited for rausli, barani, chahi and dákar.	Requires careful cultivation & irrigation, & ploughing of 6 or 7 times.	21 seers ...	For daily food.	The produce of the district is never exported. The wheat imported from the southern parts of Ludhiana and Ferozepur district is exported.	Do. ...	2-5	Soft Red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
Serial Number.	District in which grown.	Local name or names of the sample.	Rough estimate of area annually sown with each kind.				Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
			Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.		
30	LUDHIANA.	Surakh Kori (red)	48,235	14,780	93,266	1,56,081	Bearded...	In chahi and sailabi lands unmixed. In some barani lands mixed with barley and gram.
31		"Bar" and Pamman (light red large).	2,200	800	4,542	7,542	Ditto ...	Always sown unmixed.
32		"Mundi" (light red small).	1,700	600	3,200	5,500	Beardless...	Sown unmixed ...
33		Daud Khani (white).	1,437	242	2,621	4,300	Ditto ...	Ditto ... ...
		Total ...	53,572	16,422	1,03,629	1,73,623		

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
On any description, chahi sailabi, most suited—soft red chiefly grown in the "jungle" tract.	Requires more careful cultivation than other crops, and in seasons of drought more irrigation is needed.	18 to 19 seers.	Both for food & confectionery.	40 per cent. of the grain is exported to other districts.	Average	2-4	Soft red.
Ditto hardish very scarce, unpopular for bread, good for suji.	Ditto ...	17 to 18 seers.	Mostly used in confectionery.	Locally consumed.	Ditto ...	2-6	Hard red.
Ditto Soft very scarce, much cultivated in Saharanpur, Lahore, Amritsar, with canal water, for export to England.	Ditto ..	17 to 18 seers.	Ditto ...	Ditto ...	Ditto ...	2-10	Club No. 3.
Soft, 1st quality, said to be much sought after in the English market, very little grown, would grow if sown either on irrigated or unirrigated.	Ditto ...	17 to 18 seers.	Ditto ...	Ditto ...	Ditto ...	2-11	Club No. 2.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			Rough estimate of area annually sown with each kind.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
34	JALANDHAR.	Kathi ...	1,76,792 9,066	24,902 123	13,161 86,809	2,14,855 95,998	Bearded...	214,855 not mixed with other crops. 95,998 mixed with barley and gram.
35		Mundri or Bhodi,	2,205	30	...	2,235	Beardless...	Not mixed with other crops.
36		Badanak ...	1,955	...	...	1,955	Bearded ...	Ditto
37		Dáúd Kháni ...	3,000	...	...	3,000	Ditto ...	Ditto
		Total ...	1,93,018	25,055	99,970	3,18,043		

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued)*.

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small etent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Sown on every kind of land; the irrigated land being more suitable.	Hardy ...	26¼ seers ...	Preferred for daily food, used at feasts and in confectionery.	Exported to a large extent.	Average...	2·4	Soft red.
Chahi lands.	Being not hardy requires careful cultivation and irrigation.	24½ seers ...	Preferred for use at feasts and in confectionery, & not preferred for daily food.	Not exported.	Average...	2·11	Club No. 2.
Ditto ...	Ditto ...	Ditto ...	Ditto ...	Ditto. This class resembles middling English wheat, yields a white milky grain, and is probably sometimes exported, though the Tahsildars say not. Is grown in small quantity only.	Average...	2·11	Club No. 2.
Ditto ...	Ditto ...	Ditto ...	Ditto ...	Not exported.	Average...	2·11	Club No. 2.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
38	HOSHIARPUR.	Lal Kanak or Kathi.	8,804	25,926	2,87,748	3,22,478	Bearded ...	Frequently mixed with gram, barley, sarsaf and masar, especially the first.
39		Dhamuri or Bhundan.	400	12,600	14,155	27,155	Bearded ...	Often sown mixed with barley and gram.
40		Kanku Chita or Mundri or Mandchun.	856	...	13,426	14,282	Beardless...	Generally sown alone, but sometimes mixed with gram.
41		Kanku Surkh or Mundri or Mandchun.	550	...	16,533	17,083	Beardless...	Generally sown alone, but sometimes mixed with gram.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Sown in all kinds of soil but especially in unirrigated maira (sandy loam) and Rohi loamy clay.	Hardy, and does not require very careful cultivation and irrigation.	30	Used for daily food, and very commonly eaten by the ordinary cultivator, mixed with gram as grown.	Not exported to any great extent.	Average	2-4	Soft red.
As above, but also sown generally in chhal (land which has received a loamy deposit), is said to have firm roots and not easily damaged by high winds in light soil.	Ditto ...	30	Ditto, but not so well thought of as Kathi.	Do.	Average	2-4	Soft red.
Usually cultivated in manured land.	Requires rather more careful cultivation than Kathi and wants average rain or irrigation.	28	Not used for ordinary food but at feasts and in confectionery.	Nearly all that is grown is exported.	Average	2-11	Club No. 2.
Usually cultivated in manured land.	Ditto ...	28	Used for daily food as well as at feasts and in confectionery.	Ditto ...	Average	2-11	Club No. 2.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
42	HOSHIARPUR.—*Concluded.*	Chiti Kanak or Daud Khani.	120	...	1,101	1,221	Bearded ...	Generally sown alone, but sometimes mixed with barley.
43		Badanak ...	382	200	...	582	Has very long beard.	Generally sown alone.
		Total ...	11,112	38,726	332,963	382,801		
	KANGRA.	TAHSIL DHERA.						
*44		Mandihún ...	1,000	...	4,000	5,000	Ear bearded.	No ; sometimes it is mixed with masar and mustard.
*45		Lál Kanak or Pardesan.	4,000	...	13,705	17,705	Ditto ...	Ditto ...
*46		Kákrá, Mandihun or Doda Khani.	...	...	400	400	Ditto ...	Ditto ...
*47		Badának ...	50	...	50	100	Ditto ...	No ... ...
†48		Dhamori ...	1,000	...	500	1,500	Ditto ...	As No. I ... ...
†49		Berar	2,300	...	1,200	3,500	Of both kinds	Mixed with Barley, Wheat $\frac{2}{5}$ Barley $\frac{3}{5}$,
†50		Berar or Majokla	...	...	1,000	1,000	Ditto ...	Mixed with Gram Wheat $\frac{1}{3}$ Gram $\frac{2}{3}$.
		Total ...	8,350	...	20,885	29,205		

Tahsil Dehra. † Tahsil Dehra is sown for local consumption.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs	English trade denomination.
Grows best in Maira and Rohi.	Fairly hardy, and requires a moderate amount of rain Not much sown in irrigated land.	28	Especially used in confectionery and at feasts. Its great quality is its extreme whiteness, and it absorbs less ghi in cooking than other kinds.	Very little is cultivated. What is not bought up for the town of district is exported.	Average	2-14	Club No. 1
Usually cultivated only in irrigated lands	Requires a good deal of irrigation, otherwise hardy.	30	Used for daily food.	Not ordinarily exported.	Little ...	2-6	Hard red.
Usual ...	Both hardy and soft.	27 sers ...	Preferred for all purposes.	Not exported	Average,	2-11	Club No. 2.
Ditto ...	Ditto ...	Ditto ...	Ditto ...	Ditto ...	Ditto ...	2-9	No. 3.
Ditto ...	Ditto ...	Ditto ...	Ditto ...	Ditto ...	Little ...	2-6	Unknown in trade.
Ditto ...	Ditto ...	Ditto ...	Ditto ...	Not exported a very little quantity is sown.	Ditto ...	2-4	Do.
Ditto ...	Ditto ...	28 sers ...	Ditto ...	Not exported	Ditto ...	2-8	Do.
Ditto ...	Ditto ...	40 sers ...	Ditto ...	Ditto ...	Ditto ...	1-12	Rejection.
Elevated and Barani soil.	Hardy and unirrigated.	30 sers ...	Ditto ...	Ditto ...	Ditto ...	1-14	Do.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		TAHSIL HAMIRPUR.						
51		Kankú or Mandihun.	231	...	18,000	18,231	Ear, beardless.	As No. 1 Tah. Dehra
52		Badának or Chakharnú.	110	...	15,000	15,110	Ditto ..	As No. 4 Ditto ...
		Total ...	341	...	33,000	33,341		
		TAHSIL NURPUR.						
53		Mandihún ...	1,565	535	1,200	3,300	Ditto ...	As No. 1 Ditto ...
54		Gádar ...	2,150	650	3,200	6,000	Ear bearded.	Mixed with Barley...
55	KANGRA—*Continued.*	Dhamori ...	6,075	1,425	9,515	17,015	Ditto ...	No ... ...
56		Kankú	2,210	500	2,700	5,410	Ear beardless	No. ... ...
		Total ...	12,000	3,110	16,615	31,725		
		TAHSIL KANGRA.						
57		Ranghci ...	9,344	...	10,340	19,684	Ear bearded.	As No. 1 Tah. Dehra
58		Mandrihún ...	5,440	...	8,400	13,840	Ear beardless	Ditto ...
59		Kankú	8,730	...	5,620	14,350	Ditto ...	Ditto ...
60		Berar	326	...	1,200	1,526	Both kinds,	Mixed with Gram & Barley.
		Total ...	23,840	...	25,560	49,400		
		TAHSIL PALAMPUR.						
61		Chakharnu ...	11,909	...	3,045	14,954	Ear bearded.	No ... ...
62		Maudrihun ...	6,285	...	4,400	10,685	Ear beardless	No ... .
		Total ...	18,194	...	7,445	25,639		

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Wheather hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884), per maund of 82 lbs.	English trade denomination.
1st and 2nd sort soil.	Hardy ...	28 sers ...	Preferred for all purposes.	Not exported	Average.	2-11	Club No. 2.
Ditto ...	Ditto ...	32 sers ...	Daily food.	Ditto ...	Little ...	2-4	Unknown in trade.
Barani sailaba and irrigated.	Requiring irrigation.	25 sers ...	Preferred for all purposes.	Ditto ...	Average,	2-11	Club No. 2.
Ditto ...	Ditto ...	26 sers ...	Daily food,	Ditto ...	Little ...	1-14	Unknown in trade.
Ditto ...	Ditto ...	Ditto ...	Ditto ...	Ditto ..	Little ...	2-8	Do.
Ditto ...	Ditto ...	25 sers ...	Is used at feasts and confectionery.	Ditto ...	Average,	2-9	No. 3.
Irrigated & Barani soil.	Requiring irrigation.	24 sers ...	Daily food.	Not exported	Little ...	2-9	No. 3.
Ditto ...	Ditto ...	23 sers ...	All purposes.	Ditto ...	Average.	2-11	No. 2 club.
Ditto ...	Ditto ...	23 sers ...	Ditto ...	Ditto ...	Ditto ...	2-9	No. 3.
Ditto ...	Ditto ...	30 sers ...	Daily food.	Ditto ...	Little ...	1-12	Rejection.
Irrigated ...	Hardy ...	24 sers ...	All purposes.	Ditto ...	Average.	2-9	No. 3.
Ditto ...	Ditto ...	24 sers ...	Ditto ...	Ditto ...	Ditto ...	2-11	Club No. 2.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent sole by on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
	KANGRA.—*Concluded.*	TAHSIL KULU.						
63		Churri	20	...	30	50	Ear bearded,	No ... ...
64		Lal Gehún ...	275	...	4,350	4,625	Ditto ...	No ... ...
65		Gahri	...	...	2,319	2,319	Ear beardless	No ... ...
		Total ...	295	...	6,699	6,994		
		TAHSIL PALACH.						
66		Kundri... ...	...	...	1,000	1,000	Ear bearded,	No ... ...
67		Gehún	...	...	1,616	1,616	Ditto ...	No ... ...
68		Churri	95	...	600	695	Ear beardless	No ... ...
69		Pandohi ...	99	...	900	999	Ear bearded,	No ... ...
		Total ...	194	...	4,116	4,310		
		Grand Total ...	63,214	3,110	1,14,290	1,80,614		
70 S.	AMRITSAR.	Wheat Sufaid Vadanak.	20,050	...	...	20,050	Bearded ...	Usually alone ...
71 H.		Do. Lall Vadanak.	...	...	...	...	Ditto ...	Ditto ...
72 S.		Do. Sufaid Kank.	5,056	1,015	...	6,071	Ditto ...	Ditto ...
73 S.		Ditto ...	...	...	...	...	Ditto ...	Ditto ...

NOTE.—S., soft; H., hard; H. S, hard soft.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English Trade denomination.
Usual soil.	Bad and requiring irrigation.	26 sers ...	All purposes,	Not exported	Little ...	1-15	Hard red.
Ditto ...	Ditto ...	28 sers ...	Ditto ...	Ditto ...	Average,	2-9	No. 3.
Ditto ...	Ditto ...	32 sers ...	Ditto ...	Ditto ...	Little ...	1-12	No trade demand.
2nd class ...	Ditto ...	28 sers ...	Daily food,	Not exported,	Little ...	1-14	Ditto.
Ditto ...	Ditto ...	28 sers ...	Ditto ...	Ditto ...	Ditto ...	1-14	Ditto.
Ditto ...	Ditto ...	24 sers ...	All purposes,	Ditto ...	Ditto ...	1-15	Hard red.
Ditto ...	Ditto ...	24 sers ...	Ditto ...	Ditto ...	Ditto ...	2-11	Ordinary soft red.
Strong soil,	Hardy; requires irrigation.	22½ sers ...	Feasts and confectionery	Very little exported: used in making suji.	Little ...	2-6	Hard red.
Ditto ...	Ditto ...	22½ sers ...	For Suji ...	Very little exported.	Ditto ...	2-6	Hard red.
Any ordinary soil.	Ditto ...	21½ sers ...	For Atta and confectionery.	Large quantities exported.	Average,	2-11	Club No. 2.
Hilly or hard soil.	Ditto ...	21 sers ...	Daily food and confectionery.	Now in demand in Europe.	Ditto ...	2-11	Club No. 2.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
74 H. S.	AMRITSAR.—*Concluded.*	Wheat Sufaid gadar kanak.	20,015	...	...	20,015	Bearded ...	Usually alone sometimes with gram.
75 H.		Do. Lal kanak	...	...	...	...	Ditto ...	Alone ... ...
76 S.		Do. Lal jowwalli.	12,000	17,005	5,000	34,005	Ditto ...	With barley ...
77 H.S.		Do. Lal gojee	25,556	7,075	10,225	42,856	Ditto ...	Ditto ...
78 S.		Do. Lal kanak	97,878	54,450	5,000	1,57,328	Ditto ...	Alone ... ...
79		Do. Bairira...	20,000	15,015	5,000	40,015	Ditto ...	With gram ... ...
		Total ...	2,00,555	94,560	25,225	3,20,340		
80	GURDASPUR.	Mudri or Phatra G	450	680	980	2,110	Without beard.	Mixed with gram & barley.
81		Ditto ... B	5,500	700	1,200	7,400	Ditto ...	Not mixed with any crop.
82		Ditto ... S	...	215	87	302	Ditto ...	Mixed with barley...
83		Ditto ... P	205	..	...	205	Ditto ...	Not mixed with any crop.

NOTE.—S., soft; H., hard; H. S., hard soft. G., Tahsil Gurdaspur; B., Batala; S., Shakargarh; P., Pathankot.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Soft soil ...	Hardy; requires irrigation.	23 sers ...	Daily food and confectionery.	Now in demand in Europe.	Little ...	2-8	Club No. 3.
Any soil—barani.	Hardy barani	24½ sers ...	Largely used by Cashmiris	Largely exported to Rawalpindi & Karachi.	Average,	2-3	Soft red.
Ditto ...	Ditto ...	26 sers ...	Daily food for all.	Ditto to Europe.	Ditto ...	2-3	Soft red.
Ditto ...	Ditto ...	27½ sers ...	Poor people,	Not exported.	Little ...	1-14	No export demand.
Ditto ...	Ditto ...	24⅛ sers ...	Used by all for food.	Largely exported to Europe.	Average,	2-4	Soft red.
Ditto ...	Ditto ...	32 sers ...	Zamindars and poor use it largely.	Not exported.	Little ...	1-12	Rejection.
Principally on barani land.	Not hardy; & requires irrigation or rain water.	26 sers ...	For both ...	Exported to Dalhousie to a small extent.	Average,	2-11	Good club No. 2.
On all kinds of land.	Not hardy; requires irrigation.	26 sers ...	Ditto ...	Not exported.	Ditto ...	2-11	Ditto
Mehra gora	Not hardy; requires irrigation to a small extent.	30 sers ...	Ditto ...	Ditto ...	Ditto ...	2-11	Ditto
Rohi nahri and gora chahi.	Not hardy; requires irrigation.	24 sers ...	Ditto ...	Exported to a small extent to Jammu & Amritsar.	Ditto ...	2-14	Club No. 1.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
84	GURDASPUR.—*Concluded.*	Vadanak kunj G	3,115	...	...	3,115	Bearded ...	Not mixed with any other crop.
85		Ditto ... B	2,300	...	...	2,300	Ditto ...	Ditto ... ...
86		Ditto ... S	357	3,237	...	3,594	Ditto ...	Slightly mixed with barley.
87		Ditto ... P	1,380	...	...	1,380	Ditto ...	Ditto ... ...
88		Kanak Lal G	11,705	21,495	44,895	78,095	Ditto ...	Mixed with barley and gram.
89		Ditto ... B	15,500	2,500	50,487	68,487	Ditto ...	Ditto ... ...
90		Ditto ... S	1,233	21,488	53,042	75,763	Ditto ...	Ditto ... ...
91		Ditto ... P	5,262	3,507	26,756	35,525	Ditto ...	Ditto ... ...
92		Kanak Safaid G	885	225	...	1,110	Ditto ...	Not mixed with any other crop.
93		Ditto ... B	5,500	700	1,200	7,400	Ditto ...	Ditto ... ...
94		Ditto ... S	522	387	212	1,121	Ditto ...	Ditto ... ...
95		Ditto ... P	270	950	1,030	2,250	Ditto ...	Slightly mixed with gram and barley.
		Total ...	54,184	56,084	179,889	290,157		

NOTE.—G., Tahsil Gurdaspur ; B., Batala ; S., Shakargarh ; P., Pathankot.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued).*

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English Trade denomination.
Chahi and nahri.	Not hardy; requires careful cultivation, & manuring and irrigation.	24 sers ...	For feasts & confectionery.	Exported to Jammu & Amritsar.	Little ...	2-2	Unknown in trade.
Ditto ...	Ditto ...	26 „ ...	Ditto ...	Do. Amritsar and Lahore.	Ditto ..	2-5	Hard red.
Rohi and mehra ...	Ditto ...	30 „ ...	Ditto ...	Not exported.	Ditto ...	2-5	Do.
Chahi ...	Ditto ...	24 „ ...	Ditto ...	Exported to Dalhousie.	Ditto ...	2-5	Do.
Gora Rohi, and nahri.	Hardy; requires rain-water or artificial irrigation.	28 „ ...	For daily food.	Do. to Amritsar and Jammu.	Average.	2-6	Soft red.
On all kinds of land.	Ditto ...	28 „ ...	Ditto ...	Do. Amritsar & Lahore.	Ditto ...	2-6	Do.
Mehra and rohi.	Ditto ...	32 „ ...	Ditto ...	Do. Jammu	Ditto ...	2-6	Do.
Barani ...	Ditto ...	27 „ ...	Ditto ...	Exported to a small extent.	Ditto ...	2-9	No. 3 club.
Gora chahi and nahri.	Not hardy; requires slight watering.	24 „ ...	For both ...	Exported to Jammu.	Ditto ...	2-5	Soft red.
Sylábá and barani.	Ditto ...	26 „ ...	Ditto ...	Do to a small extent to Lahore & Amritsar.	Ditto ...	2-11	Club No. 2.
Rohi and mehra.	Ditto ...	30 „ ...	Ditto ...	Do. to Jammu.	Ditto ...	2-11	Do.
Barani and chahi.	Ditto ...	26 „ ...	Ditto ...	Do. to Dalhousie.	Ditto ...	2-11	Do.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
96	SIALKOT.	Kunj Wadanak,	20,405	155	790	21,350	Bearded ...	Unmixed ... ...
97		Dagar Wadanak,	38,502	6,465	4,855	49,822	Ditto ...	It is sometimes sown mixed with a small proportion of barley (Jau) about 2 per cent.
98		Nikki Surkh or "Lall" (red).	125,380	35,213	130,315	290,908	Ditto ...	It is usually mixed with barley. When the barley is in large proportion it is called "gojee;" when the seeds of nikki and wadanak wheat are mixed and sown the produce is turned as "gadar."

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued).*

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1—Much. 2—Average. 3—Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Irrigated land of the description locally called Dosahi, which is usually composed of clay and sand in the proportion of 2 : 1, and maira, which is somewhat higher land and has a larger portion of sand.	Least hardy of all wheat; requires careful cultivation and continual irrigation as well as plenty of manure.	26 sers	It is usually converted into "maida" flour, which is chiefly used for confectionery, and "Suji" for bread and pastry.	It is exported towards Sukkur to a small extent; also in small quantities to Jammu. This description of wheat is produced largely in only two of the tahsils of this district, *viz.*, Sialkot & Daska.	Little ...	2-6	Hard red.
Ditto ...	More hardy than the above.	27 sers	Preferred for daily use, and is also used for confectionery. Is said to be more glutinous than the above.	Is exported to a greater extent than Kunjwadanak.	Average.	2-11	Club No. 2.
"Dosahi" & "Maira" unrirrigated. In the higher lands it is sown mixed with barley and gives a good yield	Hardy; requiring little care in cultivation; can stand drought better, and requiries little or no manuring and watering.	28 „	Is generally used for daily food; contains more gluten than any other wheat, and is preferred for hand cakes.	Exported largely towards the seaport towns and Jummu territory.	Ditto	2-4	Soft red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
99	SIALKOT.—*Concld.*	Bhatla or Ghoni, or Daud Khani.	1,000	...	1,500	2,500	Not bearded	Unmixed ... ...
		Total ...	185,287	41,833	137,460	364,580		
100	LAHORE.	Badanak (3 samples).	9,539	...	150	9,689	Bearded ...	Grown alone ...
101								
102								
103		Lal (4 samples)	123,393	9,763	25,317	158,473	Ditto ...	Ditto ...
104								
105								
106								

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued).*

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883), sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1.—Much. 2.—Average. 3.—Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Dosahi and maira. Irrigated land	Hardy ...	26 sers ...	Used in confectionery and pastry. It is a rather small but heavy wheat, roundish in shape.	Produced in small quantity, insufficient for export.	Average	2-11	Club No. 2.
Chahi and maihra, or well or canal irrigated land.	Hardy; but requires careful cultivation and irrigation. This wheat cannot be raised in any quantities on Barani or unirrigated land. The ground requires to be ploughed 7 times before the seed is sown, and is watered 7 times before the wheat is matured.	18 sers ...	Used at feasts and for confectionery.	Slightly exported.	Kasur little.	2-0	No demand in trade.
					Lahore little.	2-10	Club No. 2.
					Sharakpur little.	2-10	Club No. 2.
All descriptions.	Hardy; requires careful cultivation; on irrigated lands better results are obtained; the ground requires 6 ploughings, and, where irrigation is possible, 5 waterings before the plant becomes matured.	20 sers ...	Used for daily food.	Exported, but in small quantities.	Sharakpur average.	2-4	Soft red.
					Lahore average.	2-4	Soft red.
					Kasur little.	2-2	Soft red.
					Chunian little.	2-2	Soft red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
107	LAHORE.—*Concluded.*	Ghoní (3 samples).	4,050	...	300	4,350	Beardless, as the name Ghoni implies.	Grown alone ...
108								
109								
110		Dáúd Khání (4 samples).	118,719	21,470	9,419	149,608	Bearded ...	Ditto ...
111								
112								
113								
114 & 115		Ghabbar ...	53,350	7,600	10,000	70,950	Ditto ...	Ditto ...
		Total ...	309,051	38,833	45,186	393,070		

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English Trade denomination.
Chahi and nahri land.	Not very hardy, but easy of cultivation. Sown generally near river banks. Not grown in quantities as the grain is soon attacked by weevils.	19 sers ...	Used for feasts and other special purposes; a large proportion of what is grown is exported.	Exported...	Chunian little.	2-7	No. 3.
					Lahore average.	2-11	Club No. 2.
					Kasur little.	2-9	No. 3.
Sandy soil	Not very hardy; easy of cultivation. Ripens the soonest. The grain of this description of wheat is also liable to the attacks of weevils.	18 sers ...	Used for daily food; also for feasts and other special purposes.	A good quantity is exported.	Chunian little.	2-10	Club No. 2.
					Lahore little.	2-10	Club No. 2.
					Kasur average.	2-11	Club No. 2.
					Sharakpur average.	2-11	Club No. 2.
Chiefly irrigated land.	The Deputy Commr. believes this is not a peculiar kind of wheat, but refers to mixed wheat. The Tahsildar of Lahore gave it as a distinct variety, but the merchant consulted by Dy. Commr. did not know of it.	20 sers ...	Used for daily food; also for confectionery.	Exported, but not in such quantities as description No. 110.	Little ...	2-8	No. 3.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
116	GUJRANWALA.	Wadának, or dágar.	48,685	1,000	...	49,685	Ear, bearded	...
117		Nikki or Lal No. I	63,288	1,200	400	64,888	Ear, bearded	...
118		Ditto No. II	...	8,400	1,500	9,900	Ditto ...	...
119		Berra ...	97,464	2,500	1,100	101,084	Ditto ...	...
120		Goji ...	2,895	1,300	900	5,095	Ear, bearded	Is usually mixed with either gram or barley.
121		Jawáli ...	15,000	4,000	...	19,000	Ditto ...	Is usually mixed with barley.
		Total ...	227,352	18,400	8,900	249,652		

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Usually sown on 2 kinds of soil, 1 Dosahi Chahi, 2 Rohi Chahi, as these both are suited for it.	Requires careful cultivation and irrigation except on Sailaba land.	25 sers ...	Used by the wealthy for daily food, and for use at feasts and in confectionery by the poorer classes.	Is exported from tahsils Gujranwala and Wazirabad to a small extent towards Karachi and other places, but is imported in the Hafizabad tahsil, where the requirements far exceed the produce.	Average	2-6	Har red.
1, Dosahi Chahi. 2, Mera Chahi	Requires careful cultivation and irrigation except on Sailaba land.	25½ sers ...	Ditto ...	Ditto ...	Ditto ...	2-4	Soft red.
1, Mera ... 2, Rohi ...	The soil is ploughed only and not irrigated afterwards.	32 sers (is sown only in Hafizabad tahsil).	Ditto ...	Not exported to any place. Is consumed in the Hafizabad tahsil.	Ditto ...	2-4	Do.
1, Dosahi Chahi. 2, Mera Chahi	As Nos. 116 and 117.	28 sers ...	Ditto ...	As Nos. 116 and 117.	Ditto ...	2-4	Do.
1, Rohi ... 2, Dosahi ...	Neither hardy nor requires careful cultivation, but is irrigated.	32 sers ...	Is used by poor classes of people for daily food.	As No. 118	Little ...	2-2	Unknown in trade.
1, Dosahi ... 2, Mera ...	Ditto	26 sers ...	Ditto ...	Ditto ...	Do. ...	2-2	Do.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		TAHSIL FEROZEPORE.						
122		"Chitti awal," soft white.	3,125	3,957	...	7,082	Bearded ...	Unmixed ... ...
123		Chitti doim, hard white.	9,625	2,567	...	12,192	Ditto ...	Ditto ... ...
124		"Lal awal," soft red.	2,758	2,862	21,492	27,112	Ditto ...	Ditto ... ...
125	FEROZEPORE.	"Lal doim," hard red.	13,421	3,186	14,144	30,751	Ditto ...	Often mixed with gram.
						77,137		
		TAHSIL ZIRA.						
126		"Ralvin Lal," mixed red.	...	11,132	...	11,132	Bearded ...	Mixed red and white.
127		"Lal naram," soft red.	72,617	13,703	9,701	96,021	Ditto ...	Slightly mixed with gram.
128		"Lal doim," hard red.	...	...	21,210	21,210	Ditto ...	Ditto ...
						128,363		
		TAHSIL MOGA.						
129		"Lal awal," red, 1st quality.	...	1,920	65,752	67,672	Bearded ...	Mixed with a small quantity of barley.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Soft well land called "gusra."	Needs care in cultivation, and wants artificial irrigation besides rain.	Early in July 22½ sers.	Used for daily food by wealthier people, and for feasts and confectionery commonly.	Exported in large quantity *viâ* Karachi.	Much ...	2-14	Club No. 1.
Ditto ...	Ditto ...	23 Do. ...	Ditto. ...	Ditto ...	Do. ...	2-13	Do.
Hard, well land.	Ditto ...	25 Do. ...	Daily food	Exported in small quantity.	Do. ...	2-4	Soft red.
Ditto ...	Ditto ...	26 sers ...	Ditto ...	Nil ...	Do. ...	2-4	Do.
Karar, or hard well land.	Ditto ...	30 sers (local)	Feasts and confectionery & daily food by the well-to-do.	Exported *viâ* Ferozepore and Ludhiana.	Do. ...	2-10	Club No. 2.
Ditto ...	Ditto ...	30 sers (do.)	Daily food	Ditto ...	Do. ...	2-3	Soft red.
Barani soft rain land.	Hardy; and needs rain-water only.	30 sers (do.)	Ditto ...	Ditto ...	Do. ...	2-3	Do.
"Barani," or soft rain land.	Hardy; and is matured with rain-water only.	22 sers ...	For daily food.	Exported *viâ* Ludhiana.	Little ...	2-2	Ordinary soft red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
130	FEROZEPORE.—*Concluded.*	"Lal doim," red, 2nd quality.	...	1,206	41,817	43,023	Bearded ...	Mixed with a small quantity of barley and gram.
						110,695		
		TAHSIL MUKTSAR.						
131		"Lal awal," red, 1st quality.	...	...	56,790	56,790	Ditto ...	Unmixed ... ...
132		Ghoni mixed, 2nd quality.	2,112	...	...	2,112	Beardless...	Mixed with little barley.
133		Sofaid awal, soft white.	14,653	...	...	14,653	Bearded ...	Mixed with very little barley.
134		Pamman, large grain, mixed red white.	3,315	...	...	3,315	Ditto ...	Mixed with barley...
135		Garri, mixed red	4,300	...	...	4,300	Ditto ...	Mixed with gram and barley.
136		Ghabbar, large grain, 2nd quality.	4,300	...	...	4,300	Ditto ...	Mixed with barley...
						85,470		
		Total ...	130,226	40,533	230,906	401,665		
137	RAWALPINDI.	Ratar or Lohi...	1,142	137	58,527	59,806	Ear, bearded	No ... ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued)*.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
"Barani" or soft rain land.	Hardy; and is matured with rain-water only.	26 sers ...	For daily food.	Exported *viâ* Ludhiana.	Little ...	2-2	No export demand.
Ditto ...	Ditto ...	28 Do. ...	Ditto ...	Exported *viâ* Ludhiana & Ferozepore.	Much ...	2-4	Soft red.
Hard well land.	Wants water by artificial means.	Local 28 sers	Ditto ...	Ditto ...	Average	2-8	No export demand.
Ditto ...	Ditto ...	28 Do. ...	Ditto, and for confectionery.	Ditto ...	Much ...	2-10	Club No. 2.
Ditto ...	Ditto ...	28 Do. ...	Daily food	Nil ...	Average	2-4	Hard red.
Ditto ...	Ditto ...	30 Do. ...	Ditto ...	Ditto ...	Much ...	2-7	Club No. 3.
Ditto ...	Ditto ...	30 Do. ...	Ditto ...	Ditto ...	Little ...	2-2	No export demand.
Sown on low-lying and embanked or sailab lands.	Irrigation required, & careful cultivation.	26 sers ...	Commonly used for daily food and feasts, &c.	Not exported	Average	2-4	Soft red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
138	RAWALPINDI.—*Concluded.*	Ratti	6,603	2,794	338,399	347,796	Ear, bearded	No ... ...
139		Rodi, Koni, Chitti	17	...	3,152	3,169	Ear, beardless.	No ... ...
140		Dagar	25	...	153	178	Ear, bearded	No ... ...
		Total ...	7,787	2,931	400,231	410,949		
141	JHELUM.	Lal (red) ...	17,079	29,228	327,816	374,123	Bearded ...	Usually mixed with barley.
142		Sofaid Dagar (white).	75	...	245	320	Beardless	Without mixture.
143		Lal Dagar (red)	105	...	322	427	Black bearded.	Ditto ...
		Total ...	17,259	29,228	328,383	374,870		

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued)*.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Sown on every kind of soil except rakar maira; soils where there is little or no sand are most suited	Hardy ...	26 sers ...	Used for daily food, feasts and in confectionery.	As a rule it is not exported. This year (1883), about 50,000 mds were exported.	Average ...	2-4	Soft red.
Sown on the best soils, nesheb, chahi and sailab, which suit at least.	Irrigation required.	Ditto ...	Used for daily food and in confectionery.	Not exported	Much ...	2-14	Club No. 1.
Sown on irrigated and las lands. It is best suited for well land.	Ditto ...	25 sers ...	Mostly used in confectionery.	Ditto ...	Average	2-6	Hard red.
Sailaba and irrigated lands of all descriptions and Lipara Barani are the soils preferentially used, and are commonly known as "wheat lands" and are used for wheat of all descriptions.	Hardy ...	32 sers ...	Daily use	305,540 maunds have been exported to Karachi during the current year.	Little ...	2-2	Unknown in trade.
	Ditto ...	28 „ ...	At feasts and in confectionery.	Nil ...	Ditto ...	2-8	Do.
	Ditto ...	28 „ ...	Ditto ...	„ ...	Average	2-9	Club No. 3.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
Serial Number.	District in which grown.	Local name or names of the sample.	Rough estimate of area annually sown with each kind.				Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
			Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.		
144	GUJRAT.	Dagar white ...	43,610	700	1,400	45,710	Bearded ...	Not mixed with other crops. Is a fine grain.
145		Nikki red ...	52,160	15,040	157,836	225,036	Ditto ...	Ditto ...
146		Berra	...	16,220	...	16,220	Ditto ...	Is a compound of dagar and nikki.
147		Jawagal ...	...	...	35,500	35,500	Ditto ...	A mixture 3 parts of wheat and 1 part of barley.
148		Goji ...	2,206	...	5,417	7,623	Ditto ...	A mixture of wheat and barley in equal parts.
149		Ghoni	40	...	...	40	Beardless...	Not mixed, kept pure
		Total ...	98,016	31,960	200,153	330,129		
150	SHAHPUR.	Dagar (in tahsil Shahpur).	500	...	...	500	Bearded ...	Sown unmixed ...
151		Dagar Gabri (in tahsil Shahpur).	1,000	...	...	1,000	Ditto ...	Ditto ...
152		Ratti (in tahsil Shahpur).	23,291	19,200	4,582	47,073	Ditto ...	Ditto ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued).*

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Commonly sown on manured and irrigated soils, and particularly on rohi and sailaba lands.	Is not hardy; requires water after sowing.	29 sers ...	At feasts and in confectionery.	Yes; to a large extent.	Average	2-6	Hard red.
Commonly on barani soil.	Ditto ...	30 „ ...	Largely used by the people for daily food.	Ditto ...	Ditto ...	2-4	Soft red.
Commonly on sailaba lands.	Hardy, but requires rain.	31 „ ...	Ditto ...	Ditto ...	Ditto ...	2-6	Hard red.
On barani lands.	Ditto ...	35 „ ...	Ditto ...	Yes; to a small extent for foreign trade.	Little ...	2-2	No export demand.
Ditto ...	Ditto ...	42 „ ...	Ditto ...	Ditto ...	Ditto ...	2-2	Do.
On irrigated lands.	Is not hardy; requires moisture.	38 „ ...	Is used largely for daily food and in confectionery.	No ...	Average	2-11	Club No. 2.
Kadhi and chahi	Requires careful cultivation and irrigation.	24 sers ...	Used at feasts and in confectionery, but not preferred for daily food.	Not exported	Average	2-6	Hard red.
Ditto ...	Ditto ...	25 „ ...	Generally used for daily food.	Ditto ...	Ditto ...	2-13	Mountain club.
Kadbi, chahi, sailabi and barani.	Hardy, but requires ordinary cultivation.	26 „ ...	Ditto ...	Exported to Sukkur and Multan to a very small quantity.	Ditto ...	2-4	Soft red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
153	SHAHPUR.—*Concluded.*	Soni (in tahsil Khushab).	339	...	21,000	21,339	Bearded ...	Mixed with barley ...
4		Ratti in tahsil Khushab.	11,090	10,576	6,373	28,039	Ditto ...	Ditto ...
155		Ratti (in tahsil Behra).	17,882	22,233	9,600	49,715	Ditto ...	Mixed with barley, linseed, massar and sarsaf.
156		Ditto ...	5,283	...	10,522	15,805	Ditto ...	Ditto ...
		Total ...	59,385	52,009	52,077	163,471		
157	MOOLTAN.	Rodi	14,795	2,925	10	17,730	Beardless...	Sown separately ...
158		Chitti	50,246	21,517	...	71,763	Ditto ...	Ditto ... ...
159		Makki	40,635	13,110	...	53,745	Ditto ...	Ditto ... ...
160		Phaman ...	3,860	1,800	...	5,660	Bearded ...	Ditto ... ...
161		Kungari ...	...	2,667	...	2,667	Ditto ...	Sown with peas and turnips.
162		Rahak	16,230	8,239	1,255	25,724	Beardless...	Sown with turnips...
163		Satra	13,441	6,315	125	19,881	Ditto ...	Sown separately ..

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Myra, chahi, sailabi and barani.	Requires careful cultivation and irrigation.	22½ sers ...	Generally used for daily food.	Exported to Sukkur and Multan to a very small quantity.	Average	2-4	Soft red.
Kadhi, chahi, sailabi and barani.	Requires much ploughing.	22½ „ ...	Ditto ...	Ditto ...	Little ...	2-2	No export demand.
Myra, chahi and sailabi.	Requires much irrigation.	24 „ ...	Ditto ...	Not exported	Ditto ...	2-2	Do.
Kadhi, chahi, sailabi and barani.	Requires careful cultivation in barani tracts.	24 „ ...	Ditto ...	Ditto ...	Ditto ...	2-2	Do.
Bhamin Ghasra malik dirma.	Loose land requires careful cultivation and irrigation.	19 sers ...	Preferred for use in confectionery.	Exported in large quantities.	Little ...	2-8	Unknown in trade.
Ditto ...	Ditto ...	19 „ ...	Preferred for daily food.	Ditto ...	Much ...	2-11	Good club No. 2.
Ditto ...	Ditto ...	10 sers and 10 chataks.	Do. for confectionery.	Ditto ...	Ditto	2-10	Club-No. 2.
Ditto ...	Ditto ...	17 sers and 12 chataks.	Ditto ...	Ditto ...	Little ...	2-2	No export demand
Gasra ...	Ditto ...	23 sers ...	For daily food.	Do. in small quantities.	Ditto ...	2-4	Do.
Phamman...	Hardy Do.	20 „ ...	Ditto ...	Ditto ...	Much ...	2-10	Club No. 2.
Ditto ...	Ditto ...	21 „ ...	Ditto ...	Ditto ...	Average...	2-10	Medium Club No. 2.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
164	MOOLTAN—*Concluded.*	Makki surkh ...	3,115	2,200	...	5,315	Little bearded.	Sown separately ...
165		Dodi	3,245	1,500	...	4,745	Beardless	Ditto ... ...
166		Surkh or red ...	2,000	1,300	...	3,300	Bearded ...	Ditto ... ...
167		Jawali	6,397	1,800	...	8,197	Ditto ...	Sown with barley ..
		Total ...	153,964	63,373	1,390	218,727		
168	JHANG.	Makíní (a small white round grain).	2,100	...	...	2,100	Beardless...	No ... ...
169		Chitti rodi (a longer white soft beardless grain).	19,400	14,000	15	33,415	Ditto ...	Ditto ...
170		Ratti rodi (the same but slightly red, hard, bearded grain.)	56,813	25,270	302	82,385	Bearded ...	Ditto ...
171		Pamban (a fine long white soft grain) bearded.	140	15	...	155	Ditto ...	Ditto ...
172		Ratti goji (reddish wheat mixed with barley.)	10,000	8,000	20	18,020	Ditto ...	Mixed with barley...
173		Dáúdi (soft white) bearded.	4,000	55	...	4,055	Ditto ...	No ... ..

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Phamman	Loose land	23 sers ...	For daily food.	Not exported.	Little ...	2-4	Unknown in trade.
Ghasra and phaman.	Ditto ...	21 „ ...	Ditto ...	Ditto ...	Much ...	2-10	Good Club No. 2.
Ditto ...	Ditto ...	23 „ ...	Ditto ...	Ditto ...	Ditto ...	2-4	Soft red.
Kallar ...	Ditto ...	24 „ ...	Ditto ...	Ditto ...	Little ...	2-2	No export demand.
...	Requires careful cultivation and irrigation.	22 sers ...	Preferred for use at feasts.	Not exported.	Average	2-8	No fixed name and no export demand.
...	Requires less attention than No. 168.	24½ sers ...	Preferred for daily food as well as for use at feasts and in confectionery.	Have this year been exported to a small extent.	Much ...	2-8	No. 3.
...	Do. than Nos. 168 & 169.	27 sers ...	Preferred for daily food.		Ditto ...	2-4	Soft red.
...	Ditto ...	26 sers ...	Not preferred in this district.	Not exported.	Little ...	2-8	No fixed denomination and no export demand.
...	Ditto ...	28 sers ...	Preferred for daily food only.	Ditto ...	Average	2-8	No. 3.
...	Ditto ...	26 sers ...	Ditto ...	Ditto ...	Much ...	2-11	Club No. 2.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab. or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
174	JHANG.—*Concld.*	Ghebri (mixed grain).	8,302	11,000	150	19,452	Bearded and beardless.	No ...
175		Chitti goji (white wheat mixed with barley).	2,000	4,500	...	6,500	Bearded ...	Mixed with barley ...
		Total ...	102,755	62,840	487	166,082		
176	MONTGOMERY.	Daudi	19,853	1,993	...	21,846	Bearded ...	Not mixed with other crops.
177		Khuni	66,578	8,546	1,752	76,876	Beardless...	Ditto ... ...
178		Ratti	61,604	33,131	700	95,435	Bearded ...	Ditto ... ...
179		Pamman ...	2,906	...	...	2,906	Ditto ...	Ditto ... ...
180		Makain ...	161	...	...	161	Ditto ...	Ditto ... ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
...	Requires less attention than Nos. 168 and 169.	27½ sers ...	Preferred for daily food only.	This year exported to a small extent.	Average	2-8	No. 3.
...	Ditto ...	27 sers ...	Ditto ...	Ditto ...	Little ...	2-2	No export demand.
Sown on gasra (loamy soil) for which it is suited.	Not hardy; requries careful cultivation and irrigation.	22 sers ...	Preferred for daily food and for use at feasts and in confectionery.	Exported to a large extent from the Pák Pattan and Dipalpur tahsils.	Much ...	2-11	Club No. 2.
Gasra and gora chahi, but more suited to the latter.	Ditto ...	22 „ ...	Ditto ...	Ditto ...	Ditto ...	2-11	Do.
Sown on all lands, but suited best to gasra, gora chahi and sikand.	Ditto ...	24 „ ...	Preferred for daily food.	Exported to a small extent from the Dipalpur and Pak Pattan tahsils.	Average	2-2	Ordinary soft red.
Sikand (clay soil) for which it is suited.	Ditto ...	22 „ ...	Preferred for use at feasts and in confectionery.	Not exported owing to the small quantity produced in district.	Little ...	2-4	No export demand.
Gora chahi for which it is suited.	Ditto ...	22½ „ ...	Preferred for daily food, and for use at feasts & in confectionery.	Ditto ...	Average	2-7	Do.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the Sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
181	MONTGOMERY.—*Concluded.*	Jawali	3,211	13,078	885	17,174	Bearded ...	Not mixed with other crops.
		Total ...	154,813	56,748	3,337	214,398		
182	MUZAFFARGARH.	Baggi,—Chitti Rodi and in Sananwan Tahsil, Nimani.	43,599	11,393	...	54,992	Beardless	It is not usually mixed with other crops, but it is sometimes with Sarson and Usúa.
183		Mahlo—known only in Sananwan Tahsil.	6,100	1,670	...	7,770	Ditto ...	As in No. 182 ...
184		Dalelan ...	1,515	...	...	1,515	Ditto ...	Ditto ...
185		Ratti, Lalo, Ratter.	48,515	30,924	...	79,439	Some bearded some beardless	Ditto ...
186		Kinghari, Kandrari.	26,313	22,973	...	49,286	Bearded ...	Ditto ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued)*.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Gasra, chahi sikand (clay soil) for which it is suited.	Not hardy; requires careful cultivation and irrigation.	24 sers ...	Preferred for daily food.	Not exported owing to the small quantity produced in district.	Little ...	2-3	No export demand.
It is usually where possible sown in the soil known as milk "gas." But it is sown in any sort of soil if good soil is not to be had.	Fairly hardy; prefers good soil and irrigation, but does fairly well with little care.	18 to 20 sers	Used for food and confectionery and maccaroni. The maccaroni from this wheat is inferior.	Exported to a large extent.	Average	2-10	Club No. 2.
As in No. 182	As in No. 182	19 sers ...	As in No. 182	Exported	Ditto ...	2-10	Do.
Ditto ...	Ditto ...	16 to 20 sers	Used for food and confectionery. Is better for maccaroni than Baggi, being more sticky, but inferior to Dudi.	Exported to a small extent.	Ditto ...	2-12	Club No. 1.
Sown in every kind of soil.	Hardy; much sown in bet lands; requires little care.	19 to 22 „	Used for daily food.	Exported less than Baggi.	Much ...	2-5	Bold soft red.
It is usually sown in bet lands.	Hardy: much sown in bet lands.	20 to 22 „	Used for food.	Exported ...	Little ...	2-4	No export demand.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
187	MUZAFFARGARH—*Concld.*	Duddi, Gúddi, Mendeanwali, Dáudi.	717	20	...	737	Beardless...	As in No. 182 ...
188		Paman ...	251	100	...	351	Bearded ...	It is not mixed with other crops.
		Total ...	127,013	67,080	—	194,093		
	DERA ISMAIL KHAN.	TAHSIL DERA.						
189		Daman Sheru	...	...	44,091	44,091	Bearded	No ... ...
		Illaqa Kachi ...	715	28,480	...	29,195		
		TAHSIL BHAKAR.						
190		Baggi khalis, alias rodi kacha and thal.	8,980	575	...	9,555	Beardless...	Ditto ...
191		Ratli khalis kacha and thal.	3,185	13,185	...	16,370	Bearded ...	Ditto ...
192		Jawali baggi kacha and thal.	4,262	28,603	...	32,865	Ditto ...	Yes; usually barley
193		Ratti jawali Do.	11,716	6,449	...	18,165	Ditto ...	Ditto ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English Trade denomination.
Fair land	Requires fair irrigation; not quite so hardy as Baggi.	16 to 19 „	Used for food and confectionery. Is better for maccaroni than Baggi.	Not exported	Little ...	2-9	Unknown in trade.
Good soil	Requires careful cultivation and irrigation.	16 to 18 „	Is used chiefly for parching.	Ditto ...	Ditto ...	2-2	No export demand.
Mat, *i.e.*, alluvial Indus silt and clayey.	Requires careful irrigation and much labor in constructing of bands, &c.; hardy.	22½ sers ...	Preferred as daily food.	Exported largely to Sukkur.	Much ...	2-5	Bold Soft Red.
Sandy, clayey and alluvial land.	Requires careful ploughing and irrigation; hardy.	23 sers ...	Ditto; also used in confectionery and by people well-to-do.	Ditto and Multan.	Much ...	2-11	Good Club No. 2.
Ditto ...	Ditto ...	23 sers ...	Ditto ...	Ditto ...	Much ...	2-4	Soft Red.
Ditto ...	Chahi; requires much labour in ploughing and irrigation; hardy.	25 sers ...	Used as daily food by poorer classes.	Ditto ...	Little ...	2-11	Club No. 2.
Ditto ...	Hardy Do.,	25 sers ...	Ditto ...	Ditto ...	Little ...	2-8	No export demand.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
	DERA ISMAIL KHAN.—*Concluded.*	TAHSIL LEIAH.						
194		Baggi, *i.e.*, white	...	76,432	...	76,432	Beardless,	No ... ...
195		Nashib Baggi.						
		Do. KULACHI.						
196		Red (Ratti) ...	13,067	...	11,050	24,057	Bearded ...	Ditto ...
197		Yellow (Pili) ...	6,503	...	5,525	12,028	Ditto ...	Ditto ...
198		Kundi (red) ...	570	...	10,795	11,365	Ditto ...	Ditto ...
199		Gumal	6,401	...	...	6,401	Yellow Do. red beardless.	Ditto ...
200		Bhittauni and Jalatar (*vide* No. 198 sample).	16,972	...	...	16,972	Ditto ...	Ditto ...
		Total ...	72,311	153,724	71,461	297,496		
201	DERA GHAZI KHAN.	Pambún ...	21,154	8,200	3,008	32,362	Bearded ...	Unmixed ... ...
202		Goji	...	19,552	...	19,552	Partially bearded.	mixed with barley...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued).*

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883), sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1.—Much. 2.—Average. 3.—Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Sandy clayey and alluvial land.	Hardy. Thal lands require a greater amount of labour.	20 sers ...	Used as daily food by the poorer classes.	Exported largely to Multan.	Average	2-13	Club No. 1.
Ditto ...	Ditto ...	20 „	Ditto ...	Ditto ..	Average	2-11	Club No. 2.
Stiff clayey, and in places silted with deposits from hill flooding.	Hardy ; requires much labour in ploughing and making embankments.	22½ „	Used as daily food by the people.	None exported for the past five years.	Average	2-4	Soft Red.
Ditto ...	Hardy Do.	21½ „	This is preferred by the well-to-do as daily food.	Ditto ...	Average	2-9	No. 3.
Ditto ...	Ditto ...	25 „	Ditto ...	Exported in small quantities	Average	2-5	Bold Soft Red.
Ditto ...	Ditto ...	25 „	Ditto ...	Ditto ...	Average	2-10	No. 2 Club.
Ditto ...	Ditto ...	25 „	Ditto ...	Ditto ...	Average	2-5	Bold soft red.
Good soil ...	Careful cultivation and irrigation.	15 sers ...	A superior quality used at feasts and in confectionery, &c.	Not exported	Little ...	2-2	No export demand.
Inferior soil	Hardy; generally sown on moist alluvial lands.	20 sers ...	Used for daily food.	exported in small quantities.	Little ...	2-0	Do.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated	Sailab, or flooded by rivers.	Barani, or dependent solely on rain	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
203	DERA GHAZI KHAN.—*Concluded.*	Makki	23,220	10,250	2 730	36,200	Beardless...	Mixed with barley ..
204		Chitti	44,006	9,312	7,630	60,948	Ditto ...	Ditto ... ...
205		Jawali	18,068	58,550	1,500	78,118	Bearded ...	Ditto ... ...
206		Dalelon ...	500	200	...	700	Ditto ...	Ditto ... ...
		Total ...	106,048	106,064	14,868	227,880		
207	BANNU.	Wazıri Hathikhel	745	...	13,252	13,997	Bearded ...	Not mixed ... ...
208		Nárwáli ...	9,316	...	...	9,316	Ditto ...	Unmixed ... ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued).*

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1—Much, 2—Average, 3—Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Inferior soil	Careful cultivation & irrigation.	16 sers ...	Similar to Pambún (Sample).	Not exported as a rule.	Little ...	2-7	Unknown in trade.
Ditto ...	Ditto ...	15¼ sers ...	The description principally used for daily food.	Exported in large quantities.	Much ...	2-11	Good club No. 2.
Ditto ...	Hardy; requiries irrigation.	16¾ sers ...	Used for daily food.	Ditto ...	Much ...	2-11	Good club No. 2.
Good Soil...	Careful cultivation & irrigation.	16 sers ...	Ditto ...	Not exported.	Much ...	2-11	Good club No. 2.
Pakha naumai (light loamy soil) suited.	Requires constant rain and irrigation.	33¾	Preferred for daily food and feasts.	Not exported.	Average	2-4	Soft red.
Sarra warboi (irrigated manured land near the village), dagar (clayey land), Pallon Trikha, Lalma pallon (irrigated unmanured land not situated near the village and affected by "Reh.")	Requiring constant irrigation.	36¼	Preferred for daily food only.	Ditto ...	Do. ...	Do.	Do.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
209	BANNU.—*Continued.*	Waziri Jani khel,	2,423	...	5,983	8,406	Bearded ...	Not mixed ... ...
210		Bannùchi ...	32,087	...	...	32,087	Ditto ...	Mixed with sugarcane and clover.
211		Mirianwali ...	4,267	...	...	4,267	Ditto ...	Ditto ... ...

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued).*

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Pakha (light loamy soil) Raghzai (unirrigated pebbly stony soil), Lissi (poor lands occasionally irrigated & containing kankar gravel) suited.	Partly hardy, partly requiring irrigation.	37½	Preferred for daily food and feasts.	Not exported	Average ...	2-4	Soft red.
Sarra Khara varboi(best land irrigated and manured, situated near the village site and silted by the hill streams), Sarra varboi (irrigated manured land situated near the village site), Sara lalma pallon (manured land not situated near the village site), pallon lalmi varboi (unmanured land situated near the village), most suited	Requiring constant irrigation	37½	Preferred for daily food only.	Ditto ...	Do. ...	Do	Do.
Ditto ...	Ditto ...	38½	Ditto ...	Ditto ...	Do. ...	Do.	Do.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
212	BANNU.—*Concluded.*	Shiga	...	...	77,251	77,251	Bearded ...	Not mixed ... ...
213		Pakha	...	...	25,379	25,379	Ditto ...	Ditto ... ...
214		Tandoba Nahri	12,410	100	...	12,510	Ditto ...	Mixed with barley
215		Thal Isakhel 1st Sort.	...	...	6,233	6,233	Ditto ...	Not mixed ... ...
216		Do. 2nd Sort ...	...	...	...	...	...	...
217		Sailab 1st Sort	...	14,192	...	14,192	Ditto ...	Ditto ... ...
218		Do. 2nd Sort ...	...	...	...	...	...	...
219		Nahri 1st Sort	9,840	...	...	9,840	Ditto ...	Ditto ... ...
220		Do. 2nd Sort ...	...	...	...	...	...	...
221		Wahiwali ...	...	...	5,590	5,590	Ditto ...	Ditto ... ...
222		Uthrádwáli ...	352	...	17,351	17,703	Ditto ...	Ditto ... ...
223		Thalwali ...	...	...	4,684	4,684	Ditto ...	Ditto ... ...
224		Kachawali ...	...	31,576	...	31,576	Bearded ...	Ditto ... ...
		Total ...	71,440	45,868	155,723	273,031		

N.B.—The rates quoted in column 9 are those prevailing in August 1883. Prices have risen since these were sent in.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Continued*).

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Shiga Barani (sandy soil dependent on rain). Wheat and gram sown alternatly.	Hardy ; requires little rain.	31¼	Preferred for daily food, & for feasts & for confectionery.	Exported largely.	Average	2-4	Soft red.
Pakha (stiff clayey).	Hardy Do.	31¼	Ditto ...	Not exported.	Ditto ...	2-4	Do.
Nahri Sailab suited for wheat.	Requires constant irrigation.	34⅜	Preferred for daily food only.	Ditto ...	Ditto ...	2-4	Do.
Barani suited for wheat.	Hardy ; requires careful cultivation.	30	Do. and for feasts & in confectionery.	Exported to a good extent.	Ditto ..	2-3	Ordinary soft red.
...	...	31¼	...	...	Ditto ...	2-4	Soft red.
Sailab Do.	Not hardy ; requires irrigation, & irrigated by flood.	33¾	Preferred for daily food, and for feasts and in confectionery.	Exported to a good extent.	Ditto ...	2-4	Do.
...	...	36¼	...	...	Little ...	2-2	No export demand.
Nahri Do.	Requires careful cultivation & irrigation.	32½	Preferred for daily food, and for feasts and in confectionery.	Exported to a good extent.	Ditto ...	2-3	Soft red.
...	...	35	...	...	Ditto ...	2-2	No export demand.
Barani suited for wheat.	Hardy ...	34	Preferred for daily food and feasts.	Exported...	Ditto ...	2-3	Ordinary soft red.
Ditto ..	Ditto ...	34	Ditto ...	Ditto ...	Ditto ...	2-4	Soft red.
Ditto ...	Ditto ...	34	Ditto ...	Ditto ...	Ditto ...	2-3	Ordinary soft red.
Sailaba suited for wheat.	Hardy ; irrigated by flood.	34	Ditto ...	Ditto ...	Ditto ...	2-4	Soft. red.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
Serial Number.	District in which grown.	Local name or names of the sample.	Rough estimate of area annually sown with each kind.				Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
			Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.		
225	PESHAWAR.	Sirki Saraganam	47,827	4,532	123,784	176,143	Bearded ...	Not mixed ... ...
226		Mori	2,810	...	185	2,995	Ditto ...	Ditto ... ...
227		Mondi, Rodi, Manji, Dag-ganam.	804	...	330	1,134	Beardless...	Ditto ... ...
		Total ...	51,441	4,532	124,299	180,272		
	HAZRA.	Tahsil Abbott-abad.						
228		Kaser	...	...	911	911	Beardless...	Unmixed ... ...
229		Dag	112	—	4,107	4,219	Bearded ...	Ditto ... ...
230		Gori	122	...	4,385	4,507	Ditto ...	Ditto ... ...
231		Ratti	217	...	5,552	5,769	Ditto ...	Ditto ... ...
232		Chitti	120	...	3,352	3,472	Ditto ...	Ditto ... ...

N. B. Regarding occasional mixture *vide* para. 3 of forwarding letter.

Note.—Varieties bearing the same name in different Tahsils are not necessarily the same variety.

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English Trade denomination.
"Matta" or "Shegali."	Hardy ...	22¼ Sers per rupee (average).	Mostly for daily food.	Very little export trade to other districts, though some from mofassil to Peshawar.	Average	2-4	Soft red.
"Matta"...	Less hardy than Sirki; requires generally careful cultivation & irrigation.	20 Sers per rupee (average).	Mostly for confectionery, &c.		Ditto ...	2-14	Club No. 1.
Ditto ...	Delicate; requires generally careful cultivation & irrigation, though perhaps less than "Mori."	19½ Sers per rupee (average).	Chiefly for confectionery feasts, &c		Much ...	2-11	Club No. 2.
Sown in Kalsi and Khushki land.	Hardy; sown in unirrigated soil; land requires 3 or 4 ploughings previous to sowing.	24 sers ...	Daily food.	Not exported to any extent.	Little ...	1-14	No export demand.
Sown in maira and Bari and unirrigated land.		24 „ ...	Ditto ...		Average	2-2	Ordinary soft red.
Ditto ...		24 „ ...	Ditto ...		Ditto ...	2-2	Do.
Ditto ...		24 „ ...	Ditto ...		Ditto ...	2-3	Soft red.
Ditto ...		24 „ ...	Ditto ...		Much ...	2-11	Good Club No. 2.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			Rough estimate of area annually sown with each kind.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		Tahsil Haripur.						
233		Rattar	8,783	...	32,000	40,783	Bearded ...	Unmixed ... ...
234		Chitti	1,000	...	318	1,318	Ditto ...	Ditto ... ...
235		Moni	500	...	4,800	5,300	Beardless...	Ditto ... ...
236		Dag	500	...	200	700	Ditto ...	Ditto ... ...
		Tahsil Mansehra.						
237		Sáf safed ...	...	...	4,572	4,572	Bearded ...	Ditto ... ...
238		Seti safed ...	...	...	3,122	3,122	Ditto ...	Ditto ... ...
239		Surkh	821	...	10,651	11,472	Ditto ...	Ditto ... ...
240		Makhlut (mixed)	1,282	...	16,342	17,624	Ditto ...	Ditto ... ...
241		Dag	...	...	4,966	4,966	Ditto ...	Ditto ... ...
		Total ...	13,457	...	95,278	108,735		

HAZARA.—*Concluded.*

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—*(Continued)*.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Sown in any soil.	Hardy; sown in both irrigated and unirrigated land. Soil requries to be ploughed oftener when the crop is to be sown on unirrigated land.	28 sers ...	Daily food.	Not exported to any extent.	Little ...	2-0	Unknown in trade.
Ditto ...		27½ ,, ...	Confectionery	Ditto ...	Ditto ...	2-0	Do.
Sown in chari and bagh land.		27¼ ,, ...	Daily food and confectionery.	Ditto ...	Average	2 0	Ordinary soft red.
Sown in any soil.		26¼ ,, ...	Daily food	Ditto ...	Little ...	2-2	Unknown in trade.
Sown in maira and kalsi land.	Hardy; sown on unirrigated soil. Land requires 3 or 4 ploughs before sowing.	32 ,, ...	Ditto ...	Ditto ...	Much ...	2-14	Club No. 1.
Ditto ...		32 ,, ...	Ditto ...	Ditto ...	Ditto ...	2-11	Good Club No. 2.
Sown in any soil.		32 ,, ...	Daily food and confectionery.	Exported in small quantities.	Ditto ...	2-4	Soft red.
Ditto ...		32 ,, ...	Ditto ...	Not exported to any extent	Little ...	2-10	Unknown in trade.
Sown in Dah Kund Bela Rakkar Khushki land.		32 ,, ...	Daily food.	Ditto ...	Ditto ...	2-4	Do.

DESCRIPTIVE LIST OF SAMPLES OF WHEAT GROWN IN THE

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
Serial Number.	District in which grown.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
242	KOHAT.	Surkhai Ratti ...	5,900	24,400		30,300	Bearded ...	No ... ...
243		Surghanam ...	...	...	56,000	56,000	Ditto ...	...
244		Mandy Surkhai	128	...	75	203	Beardless...	No ... ...
245		(*a*). Spin Ghanam. (*b*). Tirahi (*c*). Dáud Khání.	3,000	...	...	3,000	Bearded ...	No ... ...
246		Kúlangi ...	8,000	...	...	8,000	Ditto ...	No ... ...
		Total ...	17,028	80 475		97,503		
		Grand Total for the Province.	2,756,912	1,176,987	3,177,035	7,112,934		

NOTE.—Varieties bearing the same name in different

DISTRICTS OF THE PUNJAB IN THE YEAR 1883.—(*Concluded*).

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs	English trade denomination.
Barani land	Hardy, and requires less irrigation.	22 sers ...	For daily food.	No... ...	Much ...	2-5	Bold soft red.
Ditto ...	Ditto ...	22 „ ...	Ditto ...	During years of abundant crop it is largely exported to Karachi & Peshawar.	Much ...	2-4	Soft red.
Abi & Barani	Hardy; but requires more water.	23 „ ...	Ditto ...	No; only grows in Bár and Jabbi valley.	Average	2-3	Soft red.
Abi ...	Requires careful cultivation and irrigation & manure.	21 „ ...	For feasts and confectionery.	Exported to a small extent.	Much ...	2-10	Club No. 2.
Abi ...	Ditto ...	21 „ ...	Ditto ...	No; used in Kohat.	Little ...	2-8	No. 3.

E. G. WACE, LT.-COL.,

Commissioner of Settlements and Agriculture,

Punjab

Tahsils are not necessarily the same variety.

TABLE No. I.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
1	Delhi ...	Dáúd Kháni ...	63,073	2,033	10,000	75,106	Beardless...	Not mixed ...
17	Rohtak ...	Sufaid Gehun (white wheat soft)	2,223	...	...	2,223	Bearded ..	Not mixed with other grains.
18	Ditto ...	Ditto ...	64	...	...	64	Ditto ...	Mixed with barley.
27	Amballa	Daúd Kháni ...	2,362	7,183	42,250	51,795	Ear bearded	This is generally sown alone, and occasionally mixed with gram and barley.
42	Hoshiarpur.	Chitti Kanak or Daúd Kháni.	120	...	1,101	1,221	Bearded ...	Generally sown alone, but sometimes mixed with barley.
83	Gurdaspur	Mudri or Phatra (from Pathankote Tahsil).	205	...	...	205	Without beard.	Not mixed with any crop.
122	Ferozpur	Chitti awal (soft white) from Tahsil Ferozpur.	3,125	3,957	...	7,082	Bearded ...	Unmixed ...

No. 1.

CLASSED AS CLUB No. I.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Rausli and Dhakar, most suited for the latter.	Requires careful cultivation and irrigation, but thrives with less care on Dhakar than on Rausli.	17 sers ...	Is preferred for daily food, and used largely at feasts and in confectionery.	Exported largely.	Much ...	2-14
Rausli canal.	Requires careful cultivation and irrigation.	20 „ ...	Feasts and confectionery.	Not exported	Do. ...	2-14
Ditto ...	Ditto ...	20¼ „ ...	Ditto ...	Ditto ...	Do. ...	2-14
Most suited for Rausli, Niáí ábí and Rausli Niái Barani.	Requires careful cultivation and irrigation, and ploughing of not less than 6 or 7 times.	20 „ ...	Preferred for daily food, and also used at feats and in confectionery.	Ditto ...	Average	2-14
Grows best in Mairá, and Rohi.	Fairly hardy; requires a moderate amount of rain; not much sown in irrigated land	28 „ ...	Especially used in confectionery and at feasts. Its great quality is its extreme whiteness, and it absorbes less ghi in cooking than other kinds.	Very little is cultivated. What is not bought up for the towns of district is exported.	Do. ...	2-14
Rohi Nahri and Gora Chahi.	Not hardy; requires irrigation.	24 „ ...	For both ...	Exported to a small extent to Jammú and Amritsar.	Do. ...	2-14
Soft well land, called "Gasra."	Needs care in cultivation, and wants artificial irrigation besides rain.	22½ „ ...	Used for daily food by wealthier people, and for feasts and confectionery commonly.	Exported in large quantity *Vid* Karachi.	Much ...	2-14

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
123	Ferozpur	Chitti doim (hard white).	9,625	2,567	...	12,192	Bearded ...	Unmixed ...
139	Rawalpindi.	Rodi, Koni, Chitti.	17	...	3,152	3,169	Ear beardless	No ... ...
184	Muzaffargarh.	Dalelan ...	1,515	...	...	1,515	Beardless...	It is not usually mixed with other crops, but it is sometimes with Sarson and Usún.
194	D. I. Khan	Baggi (white) of Leia Tahsil.	...	76,432	...	76,432	Ditto ...	No ... ...
226	Peshawar	Mori	2,810	...	185	2,995	Bearded ...	Not mixed ...
237	Hazara...	Sáf Safed ...	...	...	4,572	4,572	Ditto ...	Unmixed ...
		Total ...	85,139	92,172	61,260	238,571		

No. I.—(*Concluded*).

CLASSED AS CLUB No. I.

7	8	9	10	11	12	13
					CALCUTTA BROKERS' REPORT.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Soft well land called "Gasra."	Needs care in cultivation, and wants artificial irrigation besides rain.	23 sers ...	Used for daily food by wealthier people, and for feasts and confectionery commonly.	Exported in large quantity *Vid* Karachi.	Much ...	2-13
Sown on the best soils, nashcb cháhi and Sailáb, which suit it best.	Irrigation required.	26 „ ...	Used for daily food and in confectionery.	Not exported.	Ditto ...	2-14
It is usually, where possible, sown in the soil known as milk "gas." But it is sown in any sort of soil if good soil is not to be had.	Fairly hardy; prefers good soil and irrigation, but does fairly well with little care.	16 to 20 „	Used for food and confectionery. Is better for maccaroni than baggi, being more sticky, but inferior to Dúddi (or Dáúdi).	Exported to a small extent.	Average	2-12
Sandy, clayey, and alluvial land.	Hardy; thal lands require a greater amount of labour.	20 „ ...	Used as daily food by poorer classes.	Exported largely to Sukkur and Multan.	Ditto ...	2-13
Mattá ...	Less hardy than sirki; requires generally careful cultivation and irrigation.	20 sers average.	Mostly for confectionery, &c.	Very little export trade to other districts, though some from mofussil to Peshawar.	Ditto ...	2-14
Sown in Maira and Kalsi land.	Hardy; sown on unirrigated soil. Land requires 3 or 4 ploughings before sowing.	32 „ ...	Daily food ...	Not exported to any extent.	Much ..	2-14

TABLE No. II.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab. or flooded by rivers.	Barani. or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		GOOD CLUB No. 2.						
4	Karnal...	Pili Turwali ...	18,569	13,136	4,461	36,166	Bearded ...	Not mixed with other crops.
80	Gurdaspúr,	Mudri or phatra (Gurdaspur Tahsil).	450	680	980	2,110	Without beard.	Mixed with gram and barley.
81	Ditto ...	Mudri or phatra (Batala Tahsil)	5,500	700	1,200	7,400	Ditto ...	Not mixed with any crop.
82	Ditto ...	Mudri or phatra (Shakargarh Tahsil).	...	215	87	302	Ditto ...	Mixed with barley.
158	Multan..	Chitti	50,246	21,517	...	71,763	Beardless...	Sown separately
165	Ditto ...	Dodi	3,245	1,500	...	4,745	Ditto ...	Ditto ...
190	Dera Ismail Khan.	Baggi khalis alias Rodi, of kacha and thal, tahsil Bhakkar.	8,980	575	..	9,555	Ditto ...	No ... ...
204	Dera Ghazi Khán.	Chitti	44,006	9,312	7,630	60,948	Ditto ...	Mixed with barley.
205	Ditto ...	Jawali	18,068	58,550	1,500	78,118	Bearded ...	Ditto ...
206	Ditto ...	Dalelon ...	500	200	...	700	Ditto ...	Ditto ...
232	Hazárá ...	Chitti	120	...	3,352	3,472	Ditto ...	Unmixed ...
238	Ditto ...	Seti sufaid ...	...	...	3,122	3,122	Ditto ...	Ditto ...
		Total ...	149,684	106,385	22,332	278,401		

No. II.—(*Concluded*).

CLASSED AS CLUB No. II.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Rausli ...	Cannot stand dryness; requires care and irrigation.	19 sers	Chiefly preferred for marriages & for sweetmeats.	Export of 3 years, 104,000 maunds.	Average	2-11
Principally on Baráni land.	Not hardy, and requires irrigation or rain water.	26 „	For both ...	Exported to Dalhousie to a small extent.	Ditto ...	2-11
On all kinds of land.	Not hardy; requires irrigation.	26 „	Ditto ...	Not exported	Ditto ...	2-11
Mehra gora	Not hardy; requires irrigation to a small extent	30 „	Ditto ...	Ditto ...	Ditto ...	2-11
Bhamin ghasra malik diima.	Loose land; requires careful cultivation and irrigation.	19 „	Preferred for daily food.	Exported in large quantities.	Much ...	2-11
Ghasra and Phaman.	Loose land ...	21 „	For daily food	Not exported	Ditto ...	2-10
Sandy clayey & alluvial land.	Requires careful ploughing & irrigation; hardy.	23	Preferred as daily food; also used in confectionery and by people well-to-do.	Exported largely to Sukkhur and Multan.	Ditto ...	2-11
Inferior soil	Careful cultivation and irrigation.	15½ „	The description principally used for daily food	Exported in large quantities.	Ditto ...	2-11
Ditto ...	Hardy; requires irrigation.	16¾ „	Used for daily food.	Ditto ...	Ditto ...	2-11
Good soil ...	Careful cultivation and irrigation.	16 „	Ditto ...	Not exported	Ditto ...	2-11
Sown in maira and Bari and unirrigated land.	Hardy; sown in unirrigated soil; land requires 3 or 4 ploughings previous to sowing.	24 „	Daily food ...	Not exported to any extent.	Ditto ...	2-11
Sown in maira and kalsi land.	Ditto ...	32 „	Ditto ...	Ditto ...	Ditto ...	2-11

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		CLUB No. 2.						
7	Karnal...	Kaghzi, Daud Khani, or Pili Gehun.	1,000	200	...	1,200	Bearded ...	Not mixed with other crops.
24	Sirsa ...	Ghunni ...	2,152	500	800	3,452	Beardless	Barley and gram
28	Amballa	Daud khani, Mundli.	579	173	1,199	1,951	Ditto ...	Generally sown alone.
33	Ludhiana	Daud Khani (white).	1,437	242	2,621	4,300	Ditto ...	Sown unmixed
35	Jalandhar	Mundri or Bhodi	2,205	30	...	2,235	Ditto ...	Not mixed with other crops.

No. II.—(*Continued*).

CLASSED AS CLUB No. II.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.
Good rausli (light loam).	Requires careful cultivation, weeding, and much irrigation.	20 sers	For feasts and for confectionery.	Too little grown for export.	Average	2-11
Rez chahi and Barani.	Wheat requiring careful cultivation and irrigation.	21 „	Generally used at feasts and in confectionery by the people in the district.	A limited quantity is exported from the district.	Much ...	2-11
Most suited for rausli niai abi, and rausli small niai barani.	Requires careful cultivation and irrigation, and ploughing of not less than 6 or 7 times.	20 „	Used at feasts and in confectionery.	Not exported	Average	2-11
Soft (1st quality); said to be much sought after in the English market; very little grown; would grow if sown either on irrigated or unirrigated land.	Requires more careful cultivation than other crops, and in seasons of drought more irrigation is needed.	17 to 18 „	Mostly used in confectionery.	Locally consumed.	Ditto ...	2-11
Chahi lands.	Being not hardy, requires careful cultivation and irrigation.	24½ „	Preferred for use at feasts and in confectionery, & not preferred for daily food.	Not exported	Ditto ...	2-11

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
36	Jalandhar	Badanak ...	1,955	...	...	1,955	Bearded ...	Not mixed with other crops.
37	Ditto ...	Daud Khani ...	3,000	...	...	3,000	Ditto ...	Ditto ...
40	Hoshiarpur	Kanku Chita or mundri or mandehun.	856	...	13,426	14,282	Beardless...	Generally sown alone, but sometimes mixed with gram.
41	Ditto ...	Kanku Surkh or mundri or mandehun.	550	...	16,533	17,083	Ditto ...	Ditto ...
44	Kangra...	Mandehun(Tahsil Dehra).	1,000	...	4,000	5,000	Ear bearded	No ; sometimes it is mixed with masar and mustard.
51	Ditto ...	Kanku or mandihun (Tahsil Hamirpur).	231	...	18,000	18,231	Ear beardless	Ditto ...
53	Ditto ...	Mandehun(Tahsil Nurpur).	1,565	535	1,200	3,300	Ditto ...	Ditto ...
58	Ditto ...	Mandrihun (Tahsil Kangra).	5,440	...	8,400	13,840	Ditto ...	Ditto ...

No. II.—*(Continued).*

CLASSED AS CLUB No. II.

7	8	9	10	11	12	13
					CALCUTTA BROKERS' REPORT.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Chahi lands	Being not hardy, requires careful cultivation and irrigation.	24½ sers ...	Peferred for use at feasts and in confectionery, and not preferred for daily food	Not exported. This class resembles middling English wheat, yields a white milky grain, & is probably sometimes exported, tho' the Tahsildars say not. Is grown in small quantity only.	Average	2-11
Ditto ...	Ditto ...	24½ ,, ...	Ditto ...	Not exported	Ditto ...	2-11
Usually cultivated in manured land.	Requires rather more careful cultivation than Kathi (No 38, soft red), & wants average rain or irrigation.	28 ,, ...	Not used for ordinary food, but at feasts and in confectionery.	Nearly all that is grown is exported.	Ditto ...	2-11
Ditto ...	Ditto ...	28 ,, ...	Used for daily food as well as at feasts and in confectionery.	Ditto ...	Ditto ...	2-11
Usual ...	Both hardy and soft.	27 ,, ...	Preferred for all purposes.	Not exported	Ditto ...	2-11
1st and 2nd sort soil.	Hardy ...	28 ,, ...	Ditto ...	Ditto ...	Ditto ...	2-11
Barani, sailábá, irrigated.	Requiring irrigation.	25 ,, ...	Ditto ...	Ditto ...	Ditto ...	2-11
Irrigated & Baráni soil.	Ditto ...	28 ,, ...	All purposes	Ditto ...	Ditto ...	2-11

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
62	Kangra...	Mandribun (Tahsil Palampur).	6,285	...	4,400	10,685	Ear Beardless	No ... ...
72	Amritsar	Sufaid Kank ...	5,056	1,015	...	6,071	Bearded ...	Usually alone...
73	Ditto ...	Ditto ...	...	...	...	...	Ditto ...	Ditto ...
93	Gurdaspur	Kank Sufaid (Batala Tahsil).	5,500	700	1,200	7,400	Ditto ...	Not mixed with any other crop.
94	Ditto ...	Kank Sufaid (Shakargarh Tahsil).	522	387	212	1,121	Ditto ...	Ditto ...
95	Ditto ...	Kank Sufaid (Pathankot Tahsil,	270	950	1,030	2,250	Ditto ...	Slightly mixed with gram and barley.
97	Sialkot ...	Dagar Vadanak	38,502	6,465	4,855	49,822	Ditto ...	It is sometimes sown mixed with a small proportion of barley (Jau) about 2 per cent.
99	Sialkot •	Bhatla or ghoni, or daud khani.	1,000	...	1,500	2,500	Not bearded	Unmixed ...

No. II.—(*Continued*).

CLASSED AS CLUB No. II.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Irrigated ...	Hardy ...	24 sers ...	All purposes...	Not exported	Average...	2-11
Any ordinary soil.	Hardy; requires irrigation.	21½ „ ...	For atta and confectionery.	Large quantities exported.	Ditto ...	2-11
Hilly or hard soil.	Ditto ...	21 „ ...	Daily food and confectionery	Now in demand in Europe.	Ditto ...	2-11
Sailábá and baráni.	Not hardy; requires slight watering.	26 „ ...	For both ...	Exported to a small extent to Lahore and Amritsar.	Ditto ...	2-11
Rohi and maira.	Ditto ...	30 „ ...	Ditto ...	Exported to a small extent to Jammá.	Ditto ...	2-11
Barani and chahi.	Ditto ...	26 „ ...	Ditto ...	Exported to a small extent to Dalhousie.	Ditto ...	2-11
Irrigated land of the description locally called dosahi, which is usually composed of clay and sand in the proportion of 2 : 1, and maira which is somewhat higher land and has a larger portion of sand	More hardy than kúnj wadanak (hard red No. 96.)	27 „ ...	Preferred for daily use, and is also used for confectionery. Is said to be more glutinous than "kunj wadanak."	Is exported to a greater extent than kunj wadanak.	Ditto ...	2-11
Dosahi and Maira irrigated land.	Hardy ...	26 „ ...	Used in confectionery and pastry. It is rather a small but hardy wheat, roundish in shape.	Produced in small quantity insufficient for export.	Ditto ...	2-11

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
101 and 102	Lahore ...	Badanak (Lahore Tahsil). Badanak (Sharakpur Tahsil).	9,539	...	150	9,689	Bearded ...	Grown alone ...
108	Ditto ...	Ghoni (Lahore Tahsil sample).	...	...	...	...	Beardless, as the name ghoni implies.	Ditto ...
110 to 113	Ditto ...	Daud khani (4 samples, 1 from each Tahsil).	118,719	21,470	9,419	149,608	Bearded ...	Ditto ...

No. II.—(*Continued*).

CLASSED AS CLUB No. II.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Chahi and maira, or well & canal irrigated land.	Hardy; but requires careful cultivation and irrigation. This wheat cannot be raised in any quantity on barani or unirrigated land. The ground requires to be ploughed 7 times before the seed is sown and is watered 7 times before the wheat is matured.	18 sers ...	Used at feasts and for confectionery.	Slightly exported.	Both samples. } Little.	2-10
Chahi and nahri land.	Not very hardy, but easy of cultivation; sown generally near river banks; not grown in quantities as the grain is soon attacked by weevils.	19 „ ...	Used for feasts and other special purposes. A large proportion of what is grown is exported.	Exported ...	Average	2-11
Sandy soil	Not very hardy; easy of cultivation; ripens the soonest. The grain of this description of wheat is also liable to the attacks of weevils	18 „ ...	Used for daily food; also for feasts and other special purposes.	A good quantity is exported.	Chunian and Lahore samples. } Little.	2-10
					Kasur and Sharakpur samples. } Average.	2-11

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
126	Ferozepore	Ralvin lál, mixed red (tahsil Zira).	...	11,132	...	11,132	Bearded ...	Mixed red and white.
133	Ditto ...	Sufaid aval, (tahsil Muktsar).	14,653	...	...	14,653	Ditto ...	Mixed with very little barley.
149	Gujrat ...	Ghoni	40	...	...	40	Beardless...	Not mixed, kept pure.
159	Multan...	Makki	40,635	13,110	...	53,745	Ditto ...	Sown separately
162	Ditto ...	Rahak	16,230	8,239	1,255	25,724	Ditto ...	Sown with turnips.
173	Jhang ...	Dáúdi (soft white).	4,000	55	...	4,055	Bearded ...	No ... ...
176	Montgomery.	Dáúdí	19,853	1,993	...	21,846	Ditto ...	Not mixed with other crops.
177	Ditto ...	Khúní	66,578	8,546	1,752	76,876	Beardless...	Ditto ... ...
182	Muzaffargarh.	Baggi, chitti, rodi and in Sínáwán tahsil Nimání.	43,599	11,393	...	54,992	Ditto ...	It is not usually mixed with other crops, but it is sometimes with sarson & úsún.
183	Ditto ...	Mablo (known only in Sinánwan tahsil).	6,100	1,670	...	7,770	Ditto ...	Dttio ... ...

No. II:—(*Continued*).

CLASSED AS CLUB No. II.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Karar, or hard well land.	Needs care in cultivation and wants artificial irrigation besides rain.	30 sers ...	Feasts and confectionery & daily food by the well-to-do.	Exported *viâ* Ferozepore and Ludhiana.	Much ...	2-10
Hard well land.	Wants water by artificial means.	28 „ ...	For daily food and for confectionery.	Ditto ...	Much ...	2-10
On irrigated lands.	Is not hardy; requires moisture.	38 „ ...	Is used largely for daily food and in confectionery.	No	Average	2-11
Bhamin ghasra malik dirma.	Loose land requires careful cultivation & irrigation.	10½ „ ...	Preferred for confectionery.	Exported in large quantities.	Much ...	2-10
Phaman ...	Hardy ditto.	20 „ ...	For daily food	Exported in small quantities.	Ditto ...	2-10
Ditto ...	Requires less attention than makaini and chitti rodi (Nos. 168 and 169).	26 „ ...	Preferred for daily food only.	Not exported	Ditto ...	2-11
Sown on gasra (loamy soil), for which it is suited.	Not hardy; requires careful cultivation and irrigation.	22 „ ...	Preferred for daily food & for use at feasts and in confectionery.	Exported to a large extent from the Pakpattan & Dipalpur tahsils.	Ditto ...	2-11
Gasra and gora chahi, but more suited to the latter.	Ditto ...	22 „ ...	Ditto ...	Ditto ...	Ditto ...	2-11
It is usually where possible sown in the soil known as milk "gas." But it is sown in any sort of soil if good soil is not to be had.	Fairly hardy; prefers good soil and irrigation, but does fairly well with little care.	18 to 20 „	Used for food and confectionery and macaroni. The macaroni from this wheat is inferior.	Exported to a large extent.	Average	2-10
Ditto ...	Ditto ...	19 „ ...	Ditto ...	Exported ...	Ditto ...	2-10

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops
192	D. I. Khan	Jowali baggi of kacha and thal (Bhakkar tahsil).	4,262	28,603	...	32,865	Bearded ...	Yes; usually barley.
195	Ditto ...	Nasbib baggi (Leiá tahsil).	...	...	...	...	Beardless...	No ... ...
199	Ditto ...	Gumal (Kulachi tahsil).	6,401	...	...	6,401	Yellow bearded; red beardless.	No ... ...
227	Peshawar	Mondi, rodi, manji, daggaram.	804	...	330	1,134	Beardless...	Not mixed ...
245	Kohat ..	Spui ghanam, tirabi, dáúd khani.	3,000	...	...	3,000	Bearded ...	No ... ...
		Total ...	433,518	117,408	92,282	643,208		
		MEDUIM CLUB No. 2.						
163	Multan...	Satra	13,441	6,315	125	19,881	Beardless...	Sown separately
		Total of all sorts of Club No. 2.	596,643	230,108	114,739	941,490		
		MOUNTAIN CLUB						
151	Shahpur	Dágar, gabri in tahsil Sháhpúr.	1,000	...	...	1,000	Bearded ...	Sown unmixed

No. II:—(*Concluded*).

CLASSED AS CLUB No. II., &c.

7	8	9	10	11	12	13
					CALCUTTA BROKERS' REPORT.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Sandy, clayey and alluvial land.	Chahi requires much labour in ploughing and irrigation. Hardy.	25 sers ...	Used as daily food by poorer classes.	Exported largely to Sukkur and Multan.	Little ...	2-11
Ditto ...	Hardy, thal lands require a greater amount of labour.	20 „ ...	Ditto ...	Ditto ...	Average	2-11
Stiff clayey and in places silted with deposits from hill flooding.	Hardy; requires much labour in ploughing and making embankments.	25 „ ...	This is preferred by the well-to-do as daily food.	Exported in small quantities.	Ditto ...	2-10
"Matta" ...	Delicate; requires generally careful cultivation & irrigation, though perhaps less than "mori" (No. I club, No. 226).	19½ average	Chiefly for confectionery, feasts, &c.	Very little export trade to other districts, though some from Mofussil to Peshawar.	Much ...	2-11
Abi ...	Requires careful cultivation and irrigation and manure.	21 sers ...	For feasts and confectionery	Exported to a small extent.	Ditto ...	2-10
Phamman...	Hardy ...	21 sers ...	For daily food	Exported in small quantities.	Average	2-10
Kadhi and chahi.	Requires careful cultivation and irrition.	25 „ ...	Generally used for daily food.	Not exported	Ditto ...	2-13

TABLE No. III.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		CLUB No. 3.						
28	Sirsá ...	Dáúdi	505	930	400	1,835	Bearded ...	Barley and gram
32	Ludhianá	"Múndi" ...	1,700	600	3,200	5,500	Beardless...	Sown unmixed
74	Amritsar	Sufaid gadur kunk.	20,015	...	...	20,015	Bearded ...	Usually alone, sometimes with gram.
91	Gurdaspur	Kanak lál (Pathankot tahsil).	5,262	3,507	26,756	35,525	Bearded ...	Mixed with barley and gram.
135	Ferozepore	Garri, mixed red	4,300	...	...	4,300	Ditto ...	Mixed with gram and barley.
143	Jhelum...	Lál dagár (red)	105	...	322	427	Black bearded.	Without mixture.
		Total ...	31,887	5,037	30,678	67,602		

No. III.

CLASSED AS CLUB No. III.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Rez, chahi and barani.	Wheat requiring careful cultivation & irrigation.	21 sers ...	Generally used at feasts, and in confectionery by the people in the district.	A limited quantity is exported.	Much ...	2-8
On any description; chahi sailaba most suited.	Requires more careful cultivation than other crops and in seasons of drought more irrigation is needed.	17 to 18 „	Mostly used in confectionery.	Locally consumed.	Average	2-10
Soft soil ...	Hardy; requires irrigation.	23 „ ...	Daily food and confectionery.	Now in demand in Europe.	Little ...	2-8
Barani ...	Hardy; requires rain-water or artificial irrigation.	27 „ ...	For daily food.	Exported to a small extent.	Average	2-9
Hard well land.	Wants water by artificial means.	30 „ ...	Daily food ...	No	Much ...	2-7
Sailaba and irrigated lands of all descriptions and Lipara barani are the soils preferentially used and are commonly known as wheat lands and are used for wheat of all descriptions.	Hardy ...	28 „ ...	At feasts and in confectionery.	No	Average	2-9

TABLE No. IV.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		No. 3.						
45	Kangra...	Lal kanak or pardesan (tahsil Dehra).	4,000	...	13,705	17,705	Ear, bearded	No; sometimes is mixed with masar and mustard.
56	Ditto ...	Kankú (tahsil Nurpur).	2,210	500	2,700	5,410	Ear, beardless.	No ... ...
57	Ditto ...	Ranghei (tahsil Kangra).	9,344	...	10,340	19,684	Ear, bearded	No; sometime it is mixed with masar and mustard.
59	Ditto ...	Kankú (tahsil Kangra.)	8,730	...	5,620	14,350	Ear, beardless.	Ditto ... ...
61	Ditto ...	Chakharnu (tahsil Pálampur).	11,909	...	3,045	14,954	Ear, bearded	No .. ...
64	Ditto ...	Lál gehun (tahsil Kulu).	275	...	4,350	4,625	Ditto ...	No ... ...
107 & 109	Lahore...	Ghoni (107 from Chunian, 109 from Kasur).	4,050	...	300	4,350	Beardless as the name ghoni implies.	Grown alone ...

No. IV—*(Continued)*.

CLASSED AS No. 3.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Usual ...	Both hardy and soft.	27 sers	Preferred for all purposes.	Not exported	Average	2·9
Barani sailaba and irrigated.	Requiring irrigation.	25 „	Is used at feasts and in confectionery.	Ditto ...	Ditto	2·9
Irrigated and barani soil.	Ditto ..	24 „	Daily food ...	Ditto ...	Little ...	2·9
Ditto ...	Ditto ...	23 „	All purposes	Ditto ...	Average	2·9
Irrigated ...	Hardy ...	24 „	Ditto	Ditto ...	Ditto	2·9
Usual soil...	Bad and requiring irrigation.	28 „	Ditto ...	Ditto ...	Ditto	2·9
Chahi and nahri land.	Not very hardy, but easy of cultivation; sown generally near river banks. Not grown in quantities as the grain is soon attacked by weevils.	19 „	Used for feasts and other special purposes. A large proportion of what is grown is exported.	Exported ...	No. 107 Little.	2·7
					No. 109 Little.	2·9

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
114 & 115	Lahore ...	Ghabbar ...	53,850	7,600	10,000	70,950	Bearded ...	Grown alone ...
169	Jhang ...	Chitti rodi (a longer white soft beardless grain).	19,400	14,000	15	33,415	Beardless...	No ... ...
172	Jhang ...	Ratti goji (reddish wheat mixed with barley).	10,000	8,000	20	18,020	Bearded ...	Mixed with barley.
174	Ditto...	Ghebri (mixed grain).	8,302	11,000	150	19,452	Bearded and beardless.	No ... ...
197	D. I. Khan	Pili (yellow) ...	6,503	...	5,525	12,028	Bearded ...	Yes ; usually barley.
246	Kohát ...	Kulangi ...	8,000	...	...	8,000	Ditto ...	No ... ...
		Total ...	146,073	41,100	55,770	242,943		

No. IV.—(*Concluded*).

CLASSED AS No. 3.

7	8	9	10	11	12	13
					CALCUTTA BROKERS' REPORT.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Chiefly irrigated land.	The Deputy Commissioner of Lahore believes this is not a peculiar kind of wheat, but refers to mixed wheat. The Tahsildar of Lahore gave it as a distinct variety, but the merchant consulted by Deputy Commissioner did not know of it.	20 sers ...	Used for daily food; also for confectionery.	Exported, but not in such quantities as daud khani (Club No. 2).	Little ...	2 8
...	Requires less attention than makini (No. 168).	24½ „ ...	Preferred for daily food as well as for use at feasts and in confectionery.	Has this year been exported to a small extent.	Much ...	2-8
...	Requires less attention than makini and chitti rodi (Nos. 168 and 169).	28 „ ...	Preferred for daily food only.	Not exported	Average	2-8
...	Ditto ...	27½ „ ...	Ditto ...	This year exported to a small extent.	Ditto ...	2-8
Stiff clayey and in many places silted with deposits from hill flooding.	Hardy; requires much labour in ploughing and making embankments.	21¼ „ ...	This is preferred by the well-to-do as daily food.	None exported for the past 5 years.	Ditto ...	2-9
Abi ...	Requires careful cultivation and irrigation and manure.	21 „ ...	For feasts and confectionery.	No; used in Kohát.	Little ...	2-8

TABLE No. V.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		BOLD SOFT RED.						
2	Delhi ...	Red (surkh) ...	41,840	6,476	15,331	63,647	Bearded ...	Is usualy mixed with barley and gram crops.
12	Rohtak...	Lál gehun hard	4,451	...	...	4,431	Ditto ...	Mixed with barley.
185	Muzaffargarh.	Ratti, lálo, rattar.	48,515	30,924	...	79,439	Some bearded, some beardless.	It is not usually mixed with other crops but it is sometimes with sarson and úsún.
189	Dera Ismail Khan.	Daman Sherú illaka kachi (tahsil Dera).	715	28,480	44,091	73,286	Bearded ...	No ... ...
198	Ditto ...	Kundi (red) ...	570	...	10,795	11,365	Ditto ...	Yes; usually barley.
200	Ditto ...	Bhittanní and jalatar (*vide* sample No. 198).	16,972	...	...	16,972	Yellow bearded, red beardless.	Ditto ...
242	Kohat ...	Súrkhai ratti ...	5,900	24,400		30,300	Bearded ...	No ... ...
		Total ...	118,943	78,080	82,417	279,440		

No. V.

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Rausli and dakar; most suited for the latter.	Does not require as much care as the white wheat, and thrives better on dakar than on rausli soil.	21 sers ...	Is used chiefly for daily food, but is also used at feasts and in confectionery.	Is exported to a small extent, the bulk of the produce being consumed locally.	Little ...	2-6
Motiyar and dakar dehri.	Hardy; requires little or no irrigation.	21 „ ...	Preferred for daily use.	Exported, but to a small extent.	Average	2-5
Sown in every kind of soil.	Hardy; much sown in Bet lands; requires little care.	19 to 22 „	Used for daily food.	Exported less than baggi wheat (No. 182).	Much ...	2-5
Mat, *i.e.*, alluvial Indus silt and clayey.	Requires careful irrigation and much labour in constructing of bands, &c. Hardy.	22½ „ ...	Preferred as daily food.	Exported largely to Sukkur.	Ditto ...	2-5
Stiff clayey and in places silted with deposits from hill flooding.	Hardy; requires much labour in ploughing and making embankments.	25 „ ...	This is preferred by the well-to-do as daily food.	Exported in small quantities.	Average	2-5
Ditto ...	Ditto ...	25 „ ...	Ditto ...	Ditto ...	Ditto ...	2-5
Barani land	Hardy, and requires less irrigation.	22 „ ...	For daily food	No	Much ...	2-5

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		ORDINARY SOFT RED.						
22	Sirsa ...	Jangal ...	...	...	2,966	2,966	Bearded ...	Barley and gram
25	Ditto ...	Ratti	250	2,102	3,395	5,747	Ditto ...	Ditto ...
69	Kangra	Pandohi (tahsil Plach).	99	...	900	999	Ear, bearded	No ... ...
129	Ferozepore	Lal awal (tahsil Moga).	...	1,920	65,752	67,672	Bearded ...	Mixed with a small quantity of barley.
178	Montgomery.	Ratti	61,604	33,131	700	95,435	Ditto ...	Not mixed with other crops.
215	Bannu ...	Thal Isakhel, 1st sort.	...	...	6,233	6,233	Ditto ...	Not mixed ...
221	Ditto ...	Wahi wali ...	...	...	5,590	5,590	Ditto ...	Ditto ...
223	Ditto ...	Thal wali ...	...	...	4,684	4,684	Ditto ...	Ditto ...
229	Hazara...	Dág (tahsil Abbottabad).	112	...	4,107	4,219	Ditto ...	Unmixed ...
230	Ditto ...	Gori (tahsil Abbottabad).	122	...	4,385	4,507	Ditto ...	Ditto ...
235	Ditto ...	Moni (tahsil Haripur).	500	...	4,800	5,300	Beardless...	Ditto ...
		Total ...	62,687	37,153	103,512	203,352		

No. V.—*(Continued).*

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.
Barani ...	Wheat requiring careful cultivation and irrigation.	27 sers ...	Generally used at feasts and in confectionery by the people in the district.	A limited quantity exported from the district.	Much ...	2-2
Rez chahi and barani.	Wheat hardy	26 „ ...	Ditto ...	A limited quantity is exported.	Ditto ...	2-2
2nd class soil.	Bad and requiring irrigation.	24 „ ...	All purposes.	Not exported.	Little ...	2-11
Barani or soft rain land.	Hardy, and is matured with rain-water only.	22 „ ...	For daily food	Exported *via* Ludhiana.	Ditto ...	2-2
Sown on all lands, but suited best to gasra, gora chahi and sikand.	Not hardy ; requires careful cultivation and irrigation.	24 „ ...	Preferred for daily food.	Exported to a small extent from the Dipalpur and Pakpattan tahsils.	Average	2-2
Barani suited for wheat.	Hardy; requires careful cultivation.	30 „ ...	Preferred for daily food and for feasts & in confectionery.	Exported to a good extent.	Ditto ..	2-3
Ditto ...	Hardy ...	34 „ ...	Preferred for daily food and feasts.	Exported ...	Little ...	2-3
Ditto ...	Ditto ...	34 „ ...	Ditto ...	Ditto ...	Ditto ...	2-3
Sown in maira and bari and unirrigated land.	Hardy; sown in unirrigated soil; land requries 3 or 4 ploughings previous to sowing.	24 „ ...	Daily food ...	Not exported to any extent.	Average	2-2
Ditto ...	Ditto ...	24 „ ...	Ditto ...	Ditto ...	Ditto ...	2-2
Sown in chari and bagh land.	Hardy; sown in both irrigated and unirrigated land ; soil requires to be ploughed oftener when the crop is to be sown on unirrigated land.	27½ „ ...	Daily food and confectionery.	Ditto ...	Ditto ...	2-0

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
		SOFT RED.						
3	Gurgaon	Red—Gurgaon Tahsil.	5,095	10,475	...	15,570	Bearded ...	Alone, and also mixed with barley and gram.
		„ Rewari Tahsil	6,459	694	525	7,678	Ditto ...	Alone ...
		„ Palwal do.	10,979	819	3,069	14,867	Ditto ...	Alone, and also mixed with barley and gram.
		„ Nuh do.	2,612	7,908	...	10,520	Ditto ...	Alone on land irrigated from wells; mixed with gram and barley on flooded land.
		„ Ferozepore do.	809	10,166	6,800	17,775	Ditto ...	Ditto ...
6	Karnal ...	Lál ...	23,699	17,466	6,233	47,398	Ditto ...	Mixed about ¼ with gram and barley.
9	Hissar ...	Pissiá (soft red)	27,952	...	...	27,952	Ditto ...	Not mixed ...
10	Do. ...	Kuthyá ...	...	5,329	12,011	17,340	Ditto ...	Commonly mixed with gram.
11	Rohtak ...	Lál gehun (soft	4,325	...	...	4,325	Ditto ...	Mixed with jau (barley).

No. V.—*(Continued.)*

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Naturally flooded clay soil, and light loam irrigated from wells.	Requiring careful cultivation and irrigation.	18 sers ...	Used for daily food, as well as at feasts and in confectionery.	Exported to a small extent.		
Light loam irrigated from wells.	Not hardy. Requiring careful cultivation and irrigation.	21 „ ...	Ditto ...	Half of the produce exported.		
Good loam irrigated from wells and by the river and canal.	Ditto ...	20 to 23 sers	Ditto ...	Exported to a small extent.	Average	2-6
Naturally flooded clay soil, and good loam irrigated by the canals.	Ditto ...	20 to 23 „	Ditto ...	Not exported		
Naturally flooded clay soil and good loam irrigated from wells or by the canal.	Ditto ...	21 to 23 „	That produced on land irrigated from wells is used at feasts, and that produced on naturally flooded land for daily food.	Produce of naturally flooded land exported to a small extent.		
Rausli ...	Is fairly hardy, and does not require much care and irrigation.	21½ sers ...	Entirely used for daily food, not for marriages and sweatmeats.	Export of 8 years, 4,000 maunds.	Ditto ...	2-4
Hard soil of good quality, and irrigated.	Requires careful cultivation.	17 „ ...	Daily food, and also confectionery.	A small quantity goes to Bikáner.	Much ...	2-4
Hard soil of good quality.	Hardy ...	17 „ ...	Daily food ...	Ditto ...	Ditto ...	2-3
Rausli chahi.	Requires careful cultivation and irriga tion.	20 „ ...	Preferred for daily use.	Exported, but to a small extent.	Average	2-4

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
14	Rohtak...	Lál gehun soft	10,170	...	1,552	11,722	Bearded ...	Not mixed with other grains.
20	Sirsa ...	Rez	68	9,235	...	9,303	Ditto ...	Barley and gram.
21	Ditto ...	Sotar	...	...	5,029	5,029	Ditto ...	Ditto ...
29	Amballa	Lál gehún ...	29,145	16,244	251,343	296,732	Ear, bearded	It is sown alone on irrigated and sailábá land, and on báráni land it is sown mixed with barley and gram.
30	Ludhiana	Surakh kori ...	48,235	14,780	93,266	156,281	Bearded ...	In chahi and sailabi lands unmixed. In some barani lands mixed with barley and gram.
34	Jallandhar	Kathí ...	176,792 9,066	24,902 123	13,161 86,809	214,855 95,998	Ditto ...	2,14,855 not mixed with other crops; 95,998 mixed with barley and gram.
38	Hoshiár-pur.	Lál kanak or kathí.	8,804	25,926	287,748	322,478	Ditto ...	Frequently mixed with gram, barley, sarsaf and masar, especially the first.

No. V.—(*Continued*).

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Rausli canal	Requires careful cultivation and irrigation.	19¼ sers ...	Preferred for daily use.	Not exported	Average	2·4
Rez and chahi.	Wheat hardy.	20 „ ...	Generally used at feasts and in confectionery by the people in the district.	A limited quantity exported.	Much ...	2·4
Sotar ...	Ditto ...	21 „ ...	Ditto ...	Ditto ...	Ditto ...	2·3
Most suited for rausli, baráni, and chahi and dákar.	Requires careful cultivation, and irrigation and ploughing of 6 or 7 times.	21 „ ...	For daily food	The produce of the district is never exported. The wheat imported from the southern parts of Ludhiana and Ferozepore districts is exported.	Average	2·5
On any description; chahi, sailaba most suited. Soft red chiefly grown in the jungal tract.	Requires more careful cultivation than other crops, and in seasons of drought more irrigation is needed.	18 to 19 sers	Both for food and confectionery.	40 per cent. of the grain is exported to other districts.	Ditto ...	2·4
Sown on every kind of land; the irrigated land being more suitable.	Hardy ...	26¼ „ ...	Preferred for daily food; used at feasts and in confectionery.	Exported to a large extent.	Ditto ...	2·4
Sown in all kinds of soil, but especially in unirrigated mairá (sandy loam) and rohi (loamy clay).	Hardy, and does not require very careful cultivation or irrigation.	30 „ ...	Used for daily food, and very commonly eaten by the ordinary cultivator mixed with gram as grown.	Not exported to any great extent.	Ditto ...	2·4

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
39	Hoshiárpur	Dhamúrí or bhúndan.	400	12,600	14,155	27,155	Bearded ...	Often sown mixed with barley and gram.
75	Amritsar	Lál kank (hard)	...	...	...	...	Ditto ...	Alone ...
76	Ditto ...	Lál jowálí (soft)	12,000	17,005	5,000	34,005	Ditto ...	With barley ...
78	Ditto ...	Lál kanak (soft)	97,878	54,450	5,000	157,328	Ditto ...	Alone ...
88	Gurdáspúr	Kanak lál ...	11,705	21,495	44,895	78,095	Ditto ...	Mixed with barley and gram.
89	Ditto ..	Kanak lál (Batala Tahsil).	15,500	2,500	50,487	68,487	Ditto ...	Ditto ...
90	Ditto ...	Kanak lál (Shakargarh).	1,233	21,488	53,042	75,763	Ditto ...	Ditto ...
92	Ditto ...	Kanak bofaid ...	885	225	...	1,110	Ditto ...	Not mixed with any other crop.
98	Sialkote	Nikki súrkh or "lal" (red).	125,380	35,213	130,315	290,908	Ditto ...	It is usually mixed with barley. When the barley is in large proportion it is called "goji." When the seeds of nikki and wadanak wheat are mixed and sown the produce is termed "gadar."

No. V.—(*Continued*).

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
As above, but sown generally in chhal (lands which have received a loamy deposit); is said to have firm roots and not easily damaged by high winds in light soil.	Hardy, & does not require very careful cultivation or irrigation.	30 sers ...	Used for daily food, and very commonly eaten by the ordinary cultivator mixed with gram as grown, but not so well thought of as kathi (No. 38).	Not exported to any great extent.	Average	2-4
Any soil, bárání.	Hardy barani.	24½ „ ...	Largely used by Cashmeris.	Largely exported to Rawalpindi and Karachi.	Average	2-3
Ditto ...	Ditto ...	26 „ ...	Daily food for all.	Largely exported to Europe.	Ditto ...	2-3
Ditto ...	Ditto ...	24½ „ ...	Used by all for food.	Ditto ...	Ditto ...	2-4
Gora rohi and nahri.	Hardy; requires rain-water or artificial irrigation	28 „ ...	For daily food.	Exported to Amritsar and Jamú.	Ditto ...	2-6
On all kinds of land.	Ditto ...	28 „ ...	Ditto ...	Exported to Amritsar and Lahore.	Ditto ...	2-6
Mahra and rohi.	Ditto ...	32 „ ...	Ditto ...	Exported to Jamú.	Ditto ...	2-6
Gora chahi and nahri.	Not hardy; requires slight watering.	24 „ ...	For both.	Ditto ...	Ditto ...	2-5
Dosáhi and mairá unirrigated. In the higher lands it is sown mixed with barley, and gives a good yield.	Hardy; requiring little care in cultivation, can stand drought better, and requires little or no manuring and watering.	28 „ ...	Is generally used for daily food. Contains more gluten than any other wheat, and is preferred for hand-cakes.	Exported largely towards the seaport towns and Jamú territory.	Ditto ..	2-4

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
103 to 106	Lahore ...	Lál (4 samples)	123,893	9,763	25,317	158,473	Bearded ...	Grown alone ...
117	Gujranwala.	Nikkí or lál No. I.	63,288	1,200	400	64,888	Ear, bearded	...
118	Ditto ...	Nikkí or lál No. II.	...	8,400	1,500	9,900	Ditto ..	...

No. V.—(*Continued*).

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
All descriptions.	Hardy; requires careful cultivation; on irrigated lands better results are obtained. The ground requires 6 ploughings, and where irrigation is possible 5 waterings, before the plant becomes matured.	20 sers ...	Used for daily food.	Exported, but in small quantities.	Sharakpur and Lahore samples. } Average.	2-4
					Kasúr and Chunian samples. } Little.	2-2
1. Dosáhí cháhi. 2. Maira cháhi.	Requires careful cultivation and irrigation except on sáilaba land.	25½ „ ...	Used by the wealthy for daily food, and for use at feasts and in confectionery by the poorer classes.	Is exported from Tahsils Gujranwala and Wazirabad to a small extent towards Karachi and other places, but is imported in the Hafizabad Tahsil, where the requirements far exceed the produce.	Average	2-4
I Maira. II Rohi.	The soil is ploughed only and not irrigated afterwards.	32 „ ...	Ditto ...	Is sown only in Hafizabad Tahsil; not exported to any place, but consumed.	Ditto ...	2-4

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
119	Gujranwala.	Berrá ..	97,484	2,500	1,100	101,084	Ear, bearded	...
124	Ferozepore	Lál awal (Tahsil Ferozepore).	2,758	2,862	21,492	27,112	Ditto ...	Unmixed ...
125	Ditto ...	Lál doim (Tahsil Ferozepore).	13,421	3,186	14,144	30,751	Ditto ...	Often mixed with gram.
127	Ferozepore	Lál naram (Tahsil Zira).	72,617	13,703	9,701	96,021	Bearded ...	Slightly mixed with gram.
128	Ditto ...	Lál doim (hard) Tahsil Zira.	...	...	21,210	21,210	Ditto ...	Ditto ...
131	Ditto ...	Lál awal (red 1st quality) Tahsil Muktasar.	...	...	56,790	56,790	Ditto ...	Unmixed ...
137	Rawal Pindi.	Ratar or lohi ...	1,142	137	58,527	59,806	Ear, bearded	No ... ...
138	Ditto ...	Ratti ...	6,603	2,794	338,399	347,796	Ditto ...	Ditto ...

No. V.—(*Continued*).

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
I Dosahi chahi. II Maira chahi.	Requires careful cultivation and irrigation, except on sailaba land.	28 sers ...	Used by the wealthy for daily food, and for use at feasts and in confectionery by the poorer classes.	Is exported from tahsils Gujranwala and Wazirabad to a small extent towards Karachi and other places, but is imported in the Hafizabad tahsil, where the requirements far exceed the produce.	Average...	2-4
Hard well land.	Needs care in cultivation, and wants artificial irrigation besides rain.	25 „ ...	Daily food ...	Exported in small quantities.	Much ...	2-4
Ditto ...	Ditto ...	26 „ ...	Ditto ...	No	Ditto ...	2-4
Karar, or hard well land.	Needs care in cultivation & wants artificial irrigation besides rain.	30 „ ...	Daily food ..	Exported *Via* Ferozepore and Ludhiana.	Ditto ...	2-3
Baráni, or soft rain land.	Hardy, and needs rain-water only.	30 „ ...	Ditto ...	Ditto ...	Ditto ...	2-3
Ditto ...	Hardy and is matured with rain-water only.	28 „ ...	Ditto ...	Ditto ...	Ditto ...	2-4
Sown on low-lying and embanked or sallab lands.	Irrigation required and careful cultivation.	26 „ ...	Commonly used for daily food and feasts, &c.	Not exported.	Average	2-4
Sown on every kind of soil except rakkar mairs. Soils where there is little or no sand are most suited.	Hardy ...	26 „ ...	Used for daily food, feasts, and in confectionery.	As a rule it is not exported. This year (1883) about 50,000 maunds were exported.	Ditto ...	2-4

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
145	Gujrat ...	Nikkí (red) ...	52,160	15,040	157,836	225,036	Bearded ...	Not mixed with other crops. Is a fine grain.
152	Shahpur	Ratti (in Tahsil Shahpur).	23,291	19,200	4,582	47,073	Ditto ...	Sown unmixed
153	Ditto ...	Soni (in Tahsil Khusháb).	339	...	21,000	21,339	Ditto ..	Mixed with barley
166	Multan	Súrkh or red ...	2,000	1,300	...	3,300	Ditto ...	Sown separately
170	Jhang ...	Ratti Rodi (the same as chitti rodi, but slightly red), hard bearded grain.	56,813	25,270	302	82,385	Ditto ...	No ...
191	Dera Ismail Khan.	Ratti Khalis Kacha and Thal (Bhakkar Tahsil).	3,185	13,185	...	16,370	Ditto ...	No ...
196	Ditto ...	Red (Ratti) Kulachi Tahsil.	13,007	...	11,050	24,057	Ditto ...	Yes ; usually barley.
207	Bannú ...	Waziri Háthí Khel.	745	...	13,252	13,997	Ditto ...	Not mixed ...

No. V.—(*Continued*).

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Commonly sown on Baráni soil.	Is not hardy; requires water after sowing.	30 sers ..	Largely used by the people for daily food.	Yes; to a large extent.	Average	2-4
Kadhi, chahi, sailábí and baráni.	Hardy, but requires ordinary cultivation.	26 „ ...	Generally used for daily food.	Exported to Sukkur and Multan to a very small quantity.	Ditto ...	2-4
Maira, chahi, sailabi, and Baráni.	Requires careful cultivatiou and irrigation.	22½ „ ...	Ditto ...	Ditto ...	Ditto ...	2-4
Gasra and Phaman.	Loose land ...	23 „ ...	For daily food	Not exported	Much ...	2-4
...	Requires less attention than makini and chitti rodi.	27 „ ...	Preferred for daily food.	Has this year (1883) been exported to a small extent.	Ditto ...	2-4
Sandy clayey and alluvial land.	Requires careful ploughing and irrigation; hardy.	23 „ ...	Preferred as daily food; also used in confectionery, and by people well-to-do.	Exported largely to Sukkur and Multan.	Ditto ...	2-4
Stiff clayey and in places silted with deposits from hill flooding.	Hardy; requires much labour in ploughing and making embankments.	22½ „ ...	Used as daily food by the people.	None exported for the past five years.	Average	2-4
Pakha naumai (light loamy soil) suited.	Requires constant rain and irrigation.	33¼ „ ...	Preferred for daily food and feasts.	Not exported	Ditto ...	2-4

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
208	Bannu ...	Nárwali ...	9,316	...	...	9,316	Bearded ...	Unmixed ...
209	Ditto ..	Waziri Jani Khel.	2,423	...	5,983	8,406	Ditto ...	Not mixed ...
210	Ditto ...	Bannuchi ...	32,087	...	...	32,087	Ditto ...	Mixed with sugarcane and clover.

No: V.—*(Continued).*

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Sarra warboi (irrigated manured land near the village site), Dagar (clayey land), Pallon, Trikha, Lalma Pallon (irrigated unmanured land, not situated near the village and affected by "reh").	Requiring constant irrigation.	36¼ ...	Preferred for daily food only.	Not exported	Average	2·4
Pakha (light loamy soil), Raghzai (unirrigated pebbly stony soil), Lissi (poor land, occasionally irrigated, containing kankar gravel).	Partly hardy, partly requiring irrigation.	37½ ...	Do. and feasts.	Ditto ...	Ditto ...	2·4
Sarra Khara varboi (best land, irrigated and manured, situated near the village site and silted by hill streams); sarra varboi (irrigated manured land, situated near the village); sarra lalma Pallon (manured land, not situated near the village site); Pallon lalma varboi (unmanured land, situated near the village) most suited.	Requiring constant irrigation.	37½ „ ...	Preferred for daily food only.	Not exported	Ditto ...	2·4

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
211	Bannu ...	Miriánwáli ...	4,267	...	...	4,267	Bearded ...	Mixed with sugercane and clover.
212	Ditto ...	Shigá ...	...	...	77,251	77,251	Ditto ...	Not mixed ...
213	Ditto ...	Pakhá ...	...	...	25,379	25,379	Ditto ...	Ditto ...
214	Ditto ...	Tandoba Nahri	12,410	100	...	12,510	Ditto ...	Mixed with barley.
216	Ditto ...	Thal Isakhel, 2nd sort.	...	...	...	...	...	...

No. V.—(*Continued*).

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Sarra Khara Varboi (best land irrigated and manured, situated near the village site and silted by hill streams); sarra varboi (irrigated manured land, situated near the village); sarra Lalma Pallon (manured, land not situated near the village site); Pallon Lalmá Varboi (unmanured land, situated near the village) most suited.	Requiring constant irrigation.	38¾ seer ...	Preferred for daily food only.	Not exported	Average...	2-4
Shiga Barani (sandy soil dependent on rain); wheat and gram sown alternately.	Hardy; requires little rain.	31¼ „ ...	Do. and for feast, saud for confectionery.	Exported largely.	Ditto ...	2-4
Pakha (stiff clayey).	Hardy Do.	31¼ „ ...	Ditto ...	Not exported	Ditto ...	2-4
Nabri sailab suited for wheat.	Requires constant irrigation.	34⅜ „ ...	Preferred for daily food only.	Ditto ...	Ditto ...	2-4
...	...	31¼ „ ...	...	...	Ditto ...	2-4

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
217	Bannu ...	Sailába 1st sort	...	14,192	...	14,192	Bearded ...	Not mixed ...
219	Ditto ...	* Nahri 1st sort	9,840	...	...	9,840	Ditto ...	Ditto ...
222	Ditto ...	Uthradwáli ...	352	...	17,351	17,703	Ditto ...	Ditto ...
224	Ditto ...	† Kachawali	...	31,576	...	31,576	Ditto ...	Ditto ...
225	Peshawar	Sirkí Saraganam	47,827	4,532	123,784	176,143	Ditto ...	Ditto ...
231	Hazara	Ratti (Tahsíl Abbotabad).	217	...	5,552	5,769	ditto ...	Unmixed ...
239	Ditto ...	Surkh (Tahsil Manschra).	821	...	10,651	11,472	Ditto ...	Ditto ...
243	Kohat ...	Surghanam ...	...	...	56,000	56,000	Dttto ...	No. ...
244	Ditto ...	Mandy Surkhai	128	...	75	203	Beardless	No. ...
		Total ...	1,281,125	477,983	2,149,068	3,908,176		
		Total of all descriptions of soft red wheat.	1,462,755	593,216	2,334,997	4,390,968		

* Contains admixture of barley ; † Poor quality.

No. V—(*Concluded*).

CLASSED AS SOFT RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Sailábá land	Not hardy; requires irrigation, and irrigated by flood.	33¾ „ ...	Preferred for daily food, and for feasts and in confectionery.	Exported to a good extent.	Average	2-4
Nahri land	Requires careful cultivation and irrigation.	32½ „ ...	Ditto ...	Ditto ...	Little ...	2-3
Barani suited for wheat.	Hardy ...	34 „ ...	Preferred for daily food and feasts.	Exported ...	Ditto ...	2-4
Sailábá suited for wheat.	Hardy; irrigated by flood.	34 „ ...	Ditto ...	Ditto ...	Ditto ...	2-4
Mattá, or Shegáli,	Hardy ...	22¾ average	Mostly for daily food.	Very little export trade to other districts, though some from mofassil to Peshawar.	Ditto ...	2-4
Sown in maira and bari and unirrigated land.	Hardy; sown in unirrigated soil; land requires 3 or 4 plougings previous to sowing.	24 sers ...	Daily food ...	Not exported to any extent.	Average	2-3
Sown in any soil.	Ditto ...	32 „ ...	Do. and confectionery.	Expoted in small quantities.	Much ...	2-4
Barani land	Hardy, and requires less irrigation.	22 „ ...	For daily food	During years of abundant crop it is largely exported to Karachi and Peshawar.	Much ...	2-4
Abí and barani,	Hardy, but requires more water.	23 „ ...	Ditto ...	No; only grows in Bár and Jabbí valley.	Average	2-3

TABLE No. VI.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops
5	Karnál ...	Pilí múndlá ...	6,330	3,330	1,572	11,232	Beardless...	Not mixed with other crops.
8	Hissár ...	Pamman ...	50	...	...	50	Bearded ...	Not mixed ...
19	Rohtak...	Sufaid gehun hard.	15	...	...	15	Beardless...	Not mixed with other grains.
26	Sirsa ...	Phuman ...	900	275	...	1,175	Bearded ...	Without any mixture.
31	Ludhiána	Bár and pamman (light red large)	2,200	800	4,542	7,542	Ditto ...	Always sown unmixed.
43	Hoshiárpur	Badának ...	382	200	...	582	Has very long beard.	Generally sown alone.
63	Kángra ...	Churrí (Tahsil Kúlú).	20	...	30	50	Ear, bearded	No ... ...
68	Ditto ...	Churrí (Tahsil Pálách).	95	...	600	695	Ear, beardless.	No ... ...
70	Amritsar	Sufaid vadának	20,050	...	...	20,050	Bearded ...	Usually alone...

No. VI.

CLASSED AS HARD RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Rausli ...	Cannot stand dryness; requires care & irrigation.	19 sers ...	Chiefly used in daily food; slightly used for sweetmeats and in marriages.	63,000 maunds exported during the last 3 years.	Little ...	2-6
The best hard soil carefully irrigated.	Requires careful cultivation.	16 „ ...	At feasts and in confectionery.	Not exported	Much ...	2-5
Rausli, motyar, canal.	Requires careful cultivation and irrigation.	18 „ ...	Feasts & confectionery.	Exported to a small extent.	Average	2-6
Cháhí & rez	Wheat hardy	24 „ ...	Generally used at feasts and in confectionery.	A limited quantity exported.	Ditto ...	2-5
On any description; cháhi, sailaba most suited.	Requires more careful cultivation than other crops, and in seasons of drought more irrigation is needed.	17 to 18 sers	Mostly used in confectionery.	Locally consumed.	Ditto ...	2-6
Usually cultivated only in irrigated land.	Requires a good deal of irrigation, otherwise hardy.	30 sers ...	Used for daily food.	Not ordinarily exported.	Little ...	2-6
Usual soil	Bad, and requiring irrigation.	26 „ ...	All purposes	Not exported	Ditto ...	1-15
2nd class ...	Ditto ...	24 „ ...	Ditto ...	Ditto ...	Ditto ...	1-15
Strong soil	Hardy; requires irrigation.	22½ „ ...	Feasts and confectionery.	Very little exported; used in making suji.	Ditto ...	2-6

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
71	Amritsar...	Lál Vadának ...	...	...	...	...	Bearded ...	Usually alone ...
85	Gurdaspur	Vadának kunj (Batalá Tahsil).	2,300	...	...	2,300	Ditto ...	Not mixed with any other crop.
86	Ditto ...	Vadanak (Shakargarh Tahsil).	357	3,237	...	3,594	Ditto ...	Slightly mixed with barley.
87	Ditto ...	Vadanak (Pathankote Tahsil).	1,380	...	...	1,380	Ditto ...	Ditto ...
96	Sialkot...	Kunj Wadanak,	20,405	155	790	21,350	Bearded ...	Unmixed ...
116	Gujranwala.	Wadanak or Dagar.	48,685	1,000	...	49,685	Ear bearded	...

No. VI.—*(Continued).*

CLASSED AS HARD RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Strong soil...	Hardy; requires irrigation.	22½ sers ...	For suji ...	Very little exportrd.	Little ...	2-6
Chahi and nahri.	Not hardy; requires careful cultivation and manuring & irrigation.	26 „ ...	For feasts and confectionery.	Exported to a small extent to Amritsar and Lahore.	Ditto ...	2-5
Rohi and maira.	Ditto ...	30 „ ...	Ditto ...	Not exported	Ditto ...	2-5
Chahi ...	Ditto ...	24 „ ...	Ditto ...	Exported to Dalhousie.	Ditto ...	2-5
Irrigated land of the description locally called Dosahi, which is usually composed of clay and sand in the proportion of 2:1 and maira which is somewhat higher land and has a larger portion of sand.	Least hardy of all wheat. Requires careful cultivation and continual irrigation as well as plenty of manure.	26 „ ...	It is usually converted into "maida" (flour) which is chiefly used for confectionery, and "Suji" for bread and pastry.	It is exported towards Sukkur to a small extent; also in small quantities to Jammu. This description of wheat is produced largely in only two of the Tahsils of this District, *viz* : Sialkote and Daska.	Ditto ...	2-6
Usually sown on 2 kinds of soil— 1. dosahi chahi 2. rohi chahi— as these both are suited for it.	Requires careful cultivation and irrigation except on sailaba land.	25 „ ...	Used by the wealthy for daily food, and for use at feasts and in confectionery by the poorer classes.	Is exported from Tahsils Gujranwalla and Wazirabad to a small extent towards Karachi and other places, but is imported into the Hafizabad Tahsil, where the requirements far exceed the produce.	Average	2-6

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
134	Ferozepur	Pamman (large grain mixed red white.)	3,315	..	...	3,315	Bearded ...	Mixed with barley.
140	Rawalpindi	Dagar	25	...	153	178	Ear bearded	No ... ...
144	Gujrat ...	Dágar white ...	43,610	700	1,400	45,710	Bearded ...	Not mixed with other crops. Is a fine grain.
146	Ditto ...	Berra	...	16,220	...	16,220	Ditto ...	Is a compound of Dagar and Nikki (Nos. 144 & 145).
150	Shahpur	Dágar (in Tahsil Shahpur).	500	...	...	500	Ditto ...	Sown unmixed...
		Total ...	150,619	25,917	9,087	185,623		

No. VI.—*(Concluded).*

CLASSED AS HARD RED.

7	8	9	10	11	12	13
					Calcutta Brokers' Report.	
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.
Hard well land.	Wants water by artificial means.	28 sers ...	Daily food ...	Not exported	Average	2-4
Sown on irrigated and *las* lands It is best suited for well land	Irrigation is required.	25 „ ...	Mostly used in confectionery.	Ditto ...	Ditto ...	2-6
Commonly sown on manured and irrigated soils, and particularly on rohi and sailaba lands	Is not hardy; requires water after sowing	29 „ ...	At feasts and in confectionery.	Yes; to a large extent.	Ditto ...	2-6
Commonly on sailaba lands.	Hardy, but requires rain.	31 „ ..	Largely used by the people for daily food.	Ditto ...	Ditto ...	2-6
Kadhi and chahi.	Requires careful cultivation and irrigation.	24 „ ...	Used at feasts and in confectionery, but not preferred for daily food.	Not exported	Ditto ...	2-6

TABLE No. VII.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT FOR WHICH THERE IS OR HAVE NOT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
13	Rohtak...	Lál gehun (soft)	...	...	113	113	Bearded ...	Mixed with barley and gram.
15	Ditto ...	Do.	2,370	200	8,276	10,846	Ditto ...	Mixed with gram.
16	Ditto ...	Do.	10,198	...	10,330	20,528	Ditto ...	Mixed with barley.
46	Kangra...	Kákrá, mandihún or dodá khání, (tahsil Dehra).	...	...	400	400	Ear, bearded	No; sometimes it is mixed with masar & mustard.
47	Ditto ...	Badának (tahsil Dehra).	50	...	50	100	Ditto ...	No ... ...
48	Ditto ...	Dhamorí (tahsil Dehra).	1,000	...	500	1,500	Ditto ...	No; sometimes it is mixed with masar & mustard.
52	Ditto ...	Badának or chakharnú (tahsil Hamirpur).	110	...	15,000	15,110	Ear, beardless.	No ... ...
54	Ditto ...	Gádar (tahsil Núrpúr).	2,150	650	3,200	6,000	Ear, bearded	Mixed with barley.
55	Ditto ...	Dhamori (Do.)	6,075	1,425	9,515	17,015	Ditto ...	No ... ...
65	Ditto ...	Gabri (tahsil Kúlú).	...	...	2,319	2,319	Ear, beardless.	No ... ..
66	Ditto ...	Kundrí (tahsil Palach).	...	...	1,000	1,000	Ear, bearded	No ... ...
67	Ditto ...	Gehun (tahsil Palach).	...	...	1,616	1,616	Ditto ...	No ... ...
77	Amritsar	Lál gojee ...	25,556	7,075	10,225	42,856	Bearded ...	With barley ...
84	Gurdaspur	Vadának kunj (Gurdaspur tahsil).	3,115	...	...	3,115	Ditto ...	Not mixed with any other crop.

No. VII.

NO EXPORT DEMAND, OR WHICH ARE UNKNOWN IN TRADE BEEN CLASSED, &c.

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Rausli, motyár, barani.	Hardy; requires little or no irrigation.	23 sers ..	Preferred for daily use.	Not exported	Little ...	2-2	No exported demand
Rausli canal	Requires careful cultivation and irrigation.	21½ „ ...	Do. ...	Do. ...	Ditto ...	2-2	Do.
Do. ...	Do. ...	22 „ ...	Do. ...	Do. ...	Ditto ...	2-2	Do.
Usual ...	Both hardy and soft.	27 „ ...	Preferred for all purposes.	Do. ...	Ditto ...	2-6	Unknown in trade.
Ditto ...	Ditto ...	27 „ ...	Do. ...	Do a very little quantity is sown.	Ditto ...	2-4	Do.
Ditto ...	Ditto ...	28 „ ...	Do. ...	Not exported, is sown for local consumption.	Ditto ...	2-8	Do.
First and second sort soil.	Hardy ...	32 „ ...	Daily food	Not exported	Ditto ...	2-4	Do.
Barani, sailaba and irrigated.	Requiring irrigation.	26 „ ..	Do. ...	Do. ...	Ditto ...	1-14	Do.
Do. ...	Ditto ...	26 „ ...	Do. ...	Do. ...	Ditto ...	2-8	Do.
Usual soil...	Bad, and requires irrigation.	32 „ ...	All purposes	Do. ...	Ditto ...	1-12	No trade demand.
2nd class soil.	Ditto ...	28 „ ...	Daily food	Do. ...	Ditto ...	1-14	Do.
Do. ...	Ditto ...	28 „ ...	Do. ...	Do. ...	Ditto ...	1-14	Do.
Any soil barani.	Hardy barani.	27½ „ ...	Do. for poor people.	Do. ...	Ditto ...	1-14	No export demand.
Chahí and nahri.	Not hardy; requires careful cultivation and manuring & irrigation.	24 „ ...	For feasts and confectionery.	Exported to a small extent to Jammu & Amritsar.	Ditto ...	2-2	Unknown in trade.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT FOR WHICH THERE IS OR HAVE NOT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
100	Lahore ...	Badanak (Kasur Tahsil sample)	...	...	...	...	Bearded ...	Grown alone ...
120	Gujranwala.	Goji	2,895	1,300	900	5,095	Ear bearded	Is usually mixed with either gram or barley.
121	Do. ...	Jawali	15,000	4,000	...	19,000	Do. ...	Is usually mixed with barley.
130	Ferozpur	Lál doim—red 2nd quality (tahsil Moga).	...	1,206	41,817	43,023	Bearded ...	Mixed with barley and gram.
132	Do. ...	Ghoni mixed 2nd quality (Muktsar tahsil).	2,112	...	...	2,112	Beardless...	Mixed with little barley.
136	Do. ...	Ghabbar, large grain 2nd quality.	4,300	...	...	4,300	Bearded ...	Mixed with barley.

No. VII.—*(Continued.)*

NO EXPORT DEMAND, OR WHICH ARE UNKNOWN IN TRADE BEEN CLASSED, &c.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring caretul cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much, 2. Average, 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Chahi and maira, or well and canal irrigated land.	Hardy; but requires careful cultivation and irrigation. This wheat cannot be raised in any quantity on barain or unirrigated land The ground requires to be ploughed 7 times before the seed is sown and is watered 7 times before the wheat is matured.	18 sers ...	Used at feasts and for confectionery.	Slightly exported.	Little ...	2-0	No demand in trade.
1. Rohi 2. Dosahi	Neither hardy nor requires careful cultivation, but is irrigated.	32 „ ...	Is used by poor classes of people for daily food.	Not exported.	Ditto ...	2-2	Unknown in trade.
1. Dosahi 2. Maira	Do.	26 „ ...	Ditto ...	Do. ...	Ditto ...	2-2	Do.
Barani or soft rain land.	Hardy, and is matured with rain-water only.	26 „ ...	For daily food.	Exported via Ludhiana.	Ditto ...	2-2	No export demand.
Hard well land.	Wants water by artificial means.	28 „ ...	Do. ...	Exported via Ludhiana and Ferozpur.	Average	2-8	Do.
Dg.	Do.	30 „ ...	Do. ...	No ...	Little ...	2-2	Do.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT FOR WHICH THERE IS OR HAVE NOT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
141	Jhelam	Lal (red) ...	17,079	29,228	327,816	374,123	Bearded ...	Usually mixed with barley.
142	Do. ...	Sofaid dagar ...	75	...	245	320	Beardless...	Without mixture
147	Gujrát ...	Jawágal ...	...	...	35,500	35,500	Bearded ...	A mixture 3 parts of wheat and 1 part of barley
148	Ditto ...	Gojí ...	2,206	...	5,417	7,623	Ditto ...	A mixture of wheat and barley in equal shares.
154	Shahpur	Ratti in Tahsil Khushab.	11,090	10,576	6,373	28,039	Ditto ...	Mixed with barley.
155	Ditto ...	Ratti, in Tahsil Bhera.	17,882	22,233	9,600	49,715	Ditto ...	Mixed with barley, linseed, masar and sarsaf.
156	Ditto ...	Ditto ...	5,283	...	10,522	15,805	Ditto ...	Ditto ...

No. VII.—*(Continued).*

NO EXPORT DEMAND, OR WHICH ARE UNKNOWN IN TRADE BEEN CLASSED, &c.,

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery.	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Present value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Sailaba and irrigated lands of all descriptions and Lipara barani are the soils preferentially used, and are commonly known as "wheat lands," and are used for wheat of all descriptions.	Hardy ...	32 sers ...	Daily use ...	305,540 mds have been exported to Kurrachi during the current year.	Little ...	2·2	Unknown in trade.
Do.	Do.	28 „ ...	At feasts and in confectionery.	Nil ...	Ditto ...	2·8	Do.
On Bárání lands.	Hardy, but requires rain.	35 „ ...	Largely used by the people for daily food.	Yes; to a small extent for foreign trade.	Ditto ...	2·2	No export demand.
Ditto ...	Ditto ...	42 „ ...	Ditto ...	Ditto ...	Ditto ...	2·2	Do.
Kadhi, chahi sailabi and baráni.	Requires much ploughing.	22½ „ ...	Generally used for daily food.	Exported to Sukkur and Multan to a very small quantity.	Ditto ...	2·2	Do.
Myrá chahi, and Sailábi.	Requires much irrigation.	24 „ ...	Ditto ...	Not exported.	Ditto ...	2·2	Do.
Kadhi, chahi, sailabi and barani.	Requires careful cultivation in baráni tracts	24 „ ...	Ditto ...	Ditto ...	Ditto ...	2·2	Do.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT FOR WHICH THERE IS OR HAVE NOT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
157	Multan...	Rodí ...	14 795	2,925	10	17,730	Beardless	Sown separately
160	Ditto ...	Phaman ...	3,860	1,800	...	5,660	Bearded ...	Ditto ...
161	Ditto ...	Kungarí ...	...	2,667	...	2,667	Ditto ...	Sown with peas and turnips.
164	Ditto ...	Makki Súrkh ...	3,115	2,200	...	5,315	Little bearded.	Sown separately
167	Ditto ...	Jawáli ...	6,397	1,800	...	8,197	Bearded ...	Sown with barley.
168	Jhang ...	Makini (a small white round grain).	2,100	...	...	2,100	Beardless	No ...
171	Ditto ...	Pamban (a fine long white soft grain).	140	15	...	155	Bearded ...	No ...

No. VII.—(*Continued*).

NO EXPORT DEMAND, OR WHICH ARE UNKNOWN IN TRADE BEEN CLASSED, &c.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Bhamin Ghasra Malik dirma.	Loose land; requires careful cultivation and irrigation.	19 „ ...	Preferred for use in confectionery.	Exported in large quantities.	Little ...	2-8	Unknown in trade.
Ditto ...	Ditto ...	17¼ „ ...	Ditto ...	Ditto ...	Ditto ...	2-2	No export demand.
Ghasra ...	Ditto ...	23 „ ...	For daily food.	Exported in small quantities.	Ditto ...	2-4	Do.
Phamman	Loose land	23 „ ...	Ditto ...	Not exported	Ditto ...	2-4	Unknown in trade.
Kallar ...	Ditto ...	24 „ ...	Ditto ...	Ditto ...	Ditto ...	2-2	No export demand.
...	Requires careful cultivation and irrigation.	22 „ ...	Preferred for use at feasts.	Ditto ...	Average	2-8	No fixed name, and no export demand.
...	Requires less attention than No. 168 "makini" and 169 chitti rodi.	26 „ ...	Not preferred in this district.	Ditto ...	Little ...	2-8	No fixed denomination, and no export demand.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT FOR WHICH THERE IS OR HAVE NOT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
175	Jhang ...	Chitti Goji (white wheat mixed with barley).	2,000	4,500	...	6,500	Bearded ...	Mixed with barley.
179	Montgomery.	Pamman ...	2,906	...	...	2,906	Ditto ...	Not mixed with other crops.
180	Ditto ...	Makain ...	161	...	...	161	Ditto ...	Ditto ...
181	Ditto ...	Jawali ...	3,211	13,078	885	17,174	Ditto ...	Ditto ...
186	Muzaffargarh.	Kinghári—Kandrárí.	26,313	22,973	...	49,286	Ditto ...	It is not usually mixed with other crops, but it is sometimes with sarson and úsún.
187	Ditto ...	Dúddí—Gúddí mendiánwálí, makíwáli, Daudi.	717	20	...	737	Beardless	Ditto ...
188	Ditto ...	Paman ...	254	100	...	354	Bearded ...	It is not mixed with other crops.

No. VII.—(*Continued*).

NO EXPORT DEMAND, OR WHICH ARE UNKNOWN IN TRADE BEEN CLASSED, &c.

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
...	Requires less attention than makini and chitti rodi (Nos. 168 and 169).	27 sers ...	Preferred for daily food only.	This year exported to a small extent.	Little ...	2-2	No export demand.
Sikand (clay soil), for which it it suited.	Not hardy; requires careful cultivation and irrigation.	22 „ ...	Preferred for use at feasts and in confectionery.	Not exported owing to the small quantity produced in district.	Ditto ...	2-4	Do.
Gorá chahi, for which it is suited.	Ditto ...	22½ „ ...	Preferred for daily food, and for use at feasts and in confectionery.	Ditto ...	Average	2-7	Do.
Gasar chahi, Sikand (clay soil), for which it is suited.	Ditto ...	24 „ ...	Preferred for daily food.	Ditto ...	Little ...	2-3	Do.
It is usually sown in bet lands.	Hardy; much sown in bet lands.	20 to 22 sers	Used for food.	Exported ...	Ditto ...	2-4	Do.
Fair land ...	Requires fair irrigation; not quite so hardy as baggi (No. 182).	16 to 19 „	Used for food and confectionery. Is better for maccaroni than baggi.	Not exported	Ditto ...	2-9	Unknown in trade.
Good soil	Requires careful cultivation and irrigation.	16 to 18 „	Is used chiefly for parching.	Ditto ...	Ditto ...	2-2	No export demand.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT FOR WHICH THERE IS OR HAVE NOT

1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
193	Dera Ismail Khan.	Katti Jáwáli kacha and thal (tahsil Bhakkar).	11,716	6,449	...	18,165	Bearded ...	Yes; usually barley.
201	Dera Ghazi Khan.	Pambún ...	21,154	8,200	3,008	32,362	Ditto ...	Unmixed ...
202	Ditto ...	Goji ...	...	19,552	...	19,552	Partially bearded.	Mixed with barley.
203	Ditto ...	Makkí ...	23,220	10,250	2,730	36,200	Beardless	Ditto ...
218	Bannú ...	Sailábá 2nd sort	...	...	...	...	...	...
220	Ditto ...	Nahrí, 2nd sort	...	...	...	...	...	...
228	Hazara ...	Kaser (tahsil Abbottabad).	...	...	911	911	Beardless	Unmixed ...
233	Ditto ...	Rattar (tahsil Haripúr.	8,783	...	32,000	40,783	Bearded ...	Ditto ...

No. VII.—*(Continued).*

NO EXPORT DEMAND, OR WHICH ARE UNKNOWN IN TRADE BEEN CLASSED, &c.

7	8	9	10	11	12	13	14
					CALCUTTA BROKERS' REPORT.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Sandy, clayey, and alluvial land.	Hardy; requires much labour in ploughing and irrigation.	25 sers ...	Used as daily food by poorer classes.	Exported largely to Sukkur and Multan.	Little ...	2-8	No export demand.
Good soil	Careful cultivation and irrigation.	15 „ ...	A superior quality used at feasts, in confectionery, &c.	Not exported	Ditto ...	2-2	Do.
Inferior soil	Hardy; generally sown on moist alluvial lands.	20 „ ...	Used for daily food.	Exported in small quantities.	Ditto ...	2	No export demand.
Ditto ...	Careful cultivation and irrigation.	16 „ ...	Similar to pambán (No. 201).	Not exported as a rule.	Ditto ...	2-7	Unknown in trade.
...	...	36¼ „ ...	...	...	Ditto ...	2-2	No export demand.
...	...	35 „ ...	...	...	Ditto ...	2-2	Do.*
Sown in khúshki land.	Hardy; sown in unirrigated soil; land requires 3 or 4 ploughings previous to sowing.	24 „ ..	Daily food	Not exported to any extent.	Ditto ...	1-14	Do.
Sown in any soil.	Hardy; sown in both irrigated and unirrigated lands; soil requires to be ploughed oftener when the crop is to be sown on unirrigated land.	28 „ ...	Ditto ...	Ditto ...	Ditto ...	2-0	Unknown in trade.

* Contains an admixture of barley.

TABLE

LIST OF SAMPLES OF PUNJAB WHEAT FOR WHICH THERE IS OR HAVE NOT

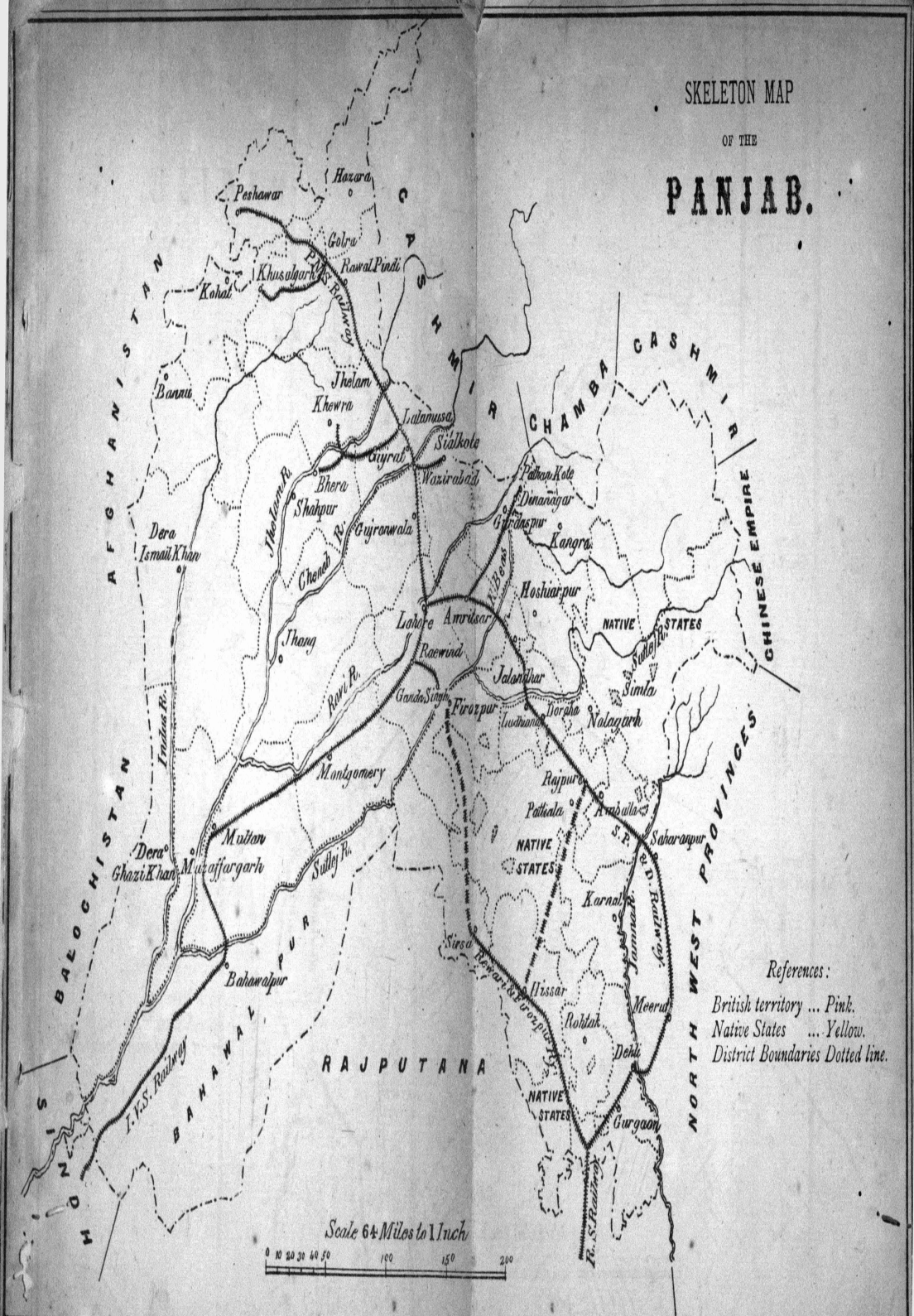
1	2	3	4				5	6
			ROUGH ESTIMATE OF AREA ANNUALLY SOWN WITH EACH KIND.					
No. in General List.	District.	Local name or names of the sample.	Irrigated.	Sailab, or flooded by rivers.	Barani, or dependent solely on rain.	Total.	Ear, bearded or beardless.	Whether usually mixed with other crops, and if so, with what crops.
234	Hazara...	Chitti (tahsil Haripúr).	1,000	...	318	1,318	Bearded ...	Unmixed ...
236	Ditto ...	Dag (tahsil Haripúr).	500	...	200	700	Beardless	Ditto ...
240	Ditto ...	Makhlút (Mansehra tahsil).	1,282	...	16,342	17,624	Bearded ...	Ditto ...
241	Ditto ...	Dag (Mansehra tahsil).	...	...	4,966	4,966	Ditto ...	Ditto ...
49	Kangra...	Berar (tahsil Dehra).	2,300	...	1,200	3,500	Of both kinds.	Mixed with barley—wheat $\frac{2}{5}$ barley $\frac{3}{5}$.
50	Ditto ...	Berar or Majokla	...	...	1,000	1,000	Ditto ...	Mixed with gram—wheat $\frac{1}{3}$ and gram $\frac{2}{3}$.
60	Ditto ...	Berar (tahsil Kangra).	326	...	1,200	1,526	Both kinds	Mixed with gram and barley.
79	Amritsar	Bairira ...	20,000	15,015	5,000	40,015	Bearded ...	With gram ...
		Total ...	284,796	189,437	570,504	1,044,737		

No. VII—(*Concluded*).

NO EXPORT DEMAND, OR WHICH ARE UNKNOWN IN TRADE BEEN CLASSED, &c.

7	8	9	10	11	12	13	14
					Calcutta Brokers' Report.		
Description of soil on which usually sown, and for which it is most suited.	Whether hardy, or requiring careful cultivation and irrigation.	Present price (1883) sers per rupee.	Whether preferred for daily food, or for use at feasts and in confectionery	Exported or not, and whether to a large or small extent.	Character of demand whether— 1. Much. 2. Average. 3. Little.	Value in Calcutta (January 1884) per maund of 82 lbs.	English trade denomination.
Sown in any soil.	Hardy; sown in both irrigated and unirrigated land; soil requires to be ploughed oftener when the crop is to be sown on unirrigated land.	27¼ sers ...	Confectionery.	Not exported to any extent.	Little ...	2	Unknown in trade.
Ditto ...	Ditto ...	26¼ „ ...	Daily food	Ditto ..	Ditto ...	2-2	Do.
Ditto ...	Hardy; sown on unirrigated soil. Land requires 3 or 4 ploughings before sowing.	32 „ ...	Daily food and confectionery.	Ditto ...	Ditto ...	2-10	Do.
Sown in Dab kund Bela Rakkar khushi land.	Ditto ...	32 „ ...	Daily food	Ditto ...	Ditto ...	2-4	Do.
Usual ...	Both hardy and soft.	40 „ ...	Preferred for all purposes.	Not exported. Is sown for local consumption.	Ditto ...	1-12	Rejection.
Elevated and barani soil.	Hardy and unirrigated.	30 „ ...	Ditto ...	Ditto ...	Ditto ...	1-14	Do.
Irrigated and barani soil.	Requires irrigation.	30 „ ...	Daily food	Not exported	Ditto ...	1-12	Do.
Any soil. Barani.	Hardy Barani.	32 „ ...	Zamindárs and poor use it largely.	Ditto ...	Ditto ...	1-12	Do.

SKELETON MAP
OF THE
PANJAB.



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